

Kevin's Review - 100 NCLEX Practice Questions

1. The client asks the nurse why he is taking bromocriptine (Parlodel). The nurse's reply is based in the understanding that bromocriptine mimics the effects of dopamine by:

- A. Decreasing dopamine levels in the brain.
- B. Decreasing the storage of dopamine peripherally.
- C. Activating dopamine receptors in the brain.
- D. Inhibiting monoamine oxidase type B.

Correct Answer: C. Activating dopamine receptors in the brain

Bromocriptine is a dopaminergic agent, and this response refers to its action. It is an ergot alkaloid derivative in the dopamine D2 agonist class of drugs. Bromocriptine is a dopamine receptor agonist that has selective agonist activity on D2 dopamine receptors while simultaneously acting as a partial antagonist for D1 dopamine receptors. Dopamine agonism has variable effects depending on the target tissue.

- **Option A:** This refers to the action of levodopa. Unlike dopamine, levodopa can cross the blood-brain-barrier (BBB). Levodopa converts to dopamine in both the CNS and periphery. Levodopa is the precursor to dopamine. Most commonly, clinicians use levodopa as a dopamine replacement agent for the treatment of Parkinson's disease. It is most effectively used to control bradykinetic symptoms that are apparent in Parkinson's disease and it is the most effective medication to improve the quality of life in patients with idiopathic PD.
- **Option B:** This refers to the action of carbidopa and levodopa. Dopamine decarboxylase inhibitors prevent the conversion of levodopa to dopamine in the periphery, allowing for more levodopa to cross the BBB. Once converted to dopamine, it activates postsynaptic dopaminergic receptors and compensates for the decrease in endogenous dopamine. Carbidopa is added to levodopa formulations to decrease the peripheral conversion of L-dopa to dopamine to reduce gastrointestinal side effects and increase levodopa bioavailability in the central nervous system (CNS).
- **Option D:** This refers to the action of selegiline. Selegiline is an irreversible inhibitor of monoamine oxidase (MAO), an enzyme that catabolizes norepinephrine, serotonin, and dopamine. The blockage of this enzyme prevents the reuptake of these neurotransmitters in the CNS, conferring increased levels of the biologically active monoamines at the synaptic cleft. With lower doses, selegiline exhibits selective B-type monoamine oxidase (MAO-B) inhibition.

2. The toddler is admitted with a cardiac anomaly. The nurse is aware that the infant with a ventricular septal defect will:

- A. Tire easily
- B. Grow normally
- C. Need more calories
- D. Be more susceptible to viral infections

Correct Answer: A. Tire easily

The toddler with a ventricular septal defect will tire easily. The hole (defect) occurs in the wall (septum) that separates the heart's lower chambers (ventricles) and allows blood to pass from the left to the right side of the heart. The oxygen-rich blood then gets pumped back to the lungs instead of out to the body,

causing the heart to work harder.

- **Options B and C:** He will not grow normally but will not need more calories.
- **Option D:** He will be susceptible to bacterial infection, but he will be no more susceptible to viral infections than other children.

3. A male client with type 1 diabetes is scheduled to receive 30 U of 70/30 insulin. There is no 70/30 insulin available. As a substitution, the nurse may give the client:

- A. 9 U regular insulin and 21 U neutral protamine Hagedorn (NPH).
- B. 21 U regular insulin and 9 U NPH.
- C. 10 U regular insulin and 20 U NPH.
- D. 20 U regular insulin and 10 U NPH.

Correct Answer: A. 9 U regular insulin and 21 U neutral protamine Hagedorn (NPH).

A 70/30 insulin preparation is 70% NPH and 30% regular insulin. Therefore, a correct substitution requires mixing 21 U of NPH and 9 U of regular insulin.

- **Option B:** Using this dosage would be incorrect and may produce no effect on the client's blood sugar level.
- **Option C:** This is an incorrect insulin dose. Incorrect administration can result in transient and serious hypoglycemia and hyperglycemia, wide glycemic excursions, and diabetic ketoacidosis.
- **Option D:** This is an incorrect dosage for the prescribed insulin. Glycemic control is poorer in those who lacked confidence in their ability to choose correct doses.

4. Malou is diagnosed with major depression and spends the majority of the day lying in bed with the sheet pulled over his head. Which of the following approaches by the nurse would be the most therapeutic?

- A. Question the client until he responds.
- B. Initiate contact with the client frequently.
- C. Sit outside the client's room.
- D. Wait for the client to begin the conversation.

Correct Answer: B. Initiate contact with the client frequently

The nurse should initiate brief, frequent contacts throughout the day to let the client know that he is important to the nurse. This will positively affect the client's self-esteem. Initially, provide activities that require minimal concentration (e.g., drawing, playing simple board games). Depressed people lack concentration and memory. Activities that have no "right or wrong" or "winner or loser" minimizes opportunities for the client to put himself/herself down.

- **Option A:** Eventually involve the client in group activities (e.g., group discussions, art therapy, dance therapy). Socialization minimizes feelings of isolation. Genuine regard for others can increase feelings of self-worth. Eventually maximize the client's contacts with others (first one other, then two others, etc.). Contact with others distracts the client from self-preoccupation.

- **Option C:** When the client is in the most depressed state, involve the client in a one-to-one activity. Maximizes the potential for interactions while minimizing anxiety levels. Involve the client in gross motor activities that call for very little concentration (e.g., walking). Such activities will aid in relieving tensions and might help in elevating the mood.
- **Option D:** Evaluate the client's need for assertiveness training tools to pursue things he or she wants or needs in life. Arrange for training through community-based programs, personal counseling, literature, etc. Low self-esteem individuals often have feelings of unworthiness and have difficulty determining their needs and wants. Encourage the client to participate in a group therapy where the members share the same situations/feelings that they have. To minimize the feelings of isolation and provide an atmosphere where positive feedback and a more realistic appraisal of self are available.

5. The nurse assessed the client and noted shortness of breath and a recent trip to China. The client is strongly suspected of having Severe Acute Respiratory Syndrome (SARS). Which of these prescribed actions will the nurse take first?

- Place the client on airborne and contact precautions
- Introduce normal saline at 75 mL/hr
- Give methylprednisolone (SOLU-Medrol) 1 g intravenously (IV)
- Take blood, urine, sputum cultures

Correct Answer: A. Place the client on airborne and contact precautions

SARS is considered deadly so the initial action is to protect other clients and healthcare workers by securing the client in isolation. If an airborne-agent isolation (negative-pressure) room is not yet available, droplet precautions should be initiated until the client can be moved to a negative-pressure room.

- **Option B:** Early in the pandemic, a combination of ribavirin and corticosteroids was adopted as the standard treatment in Hong Kong, Canada and elsewhere because of the apparent good results of the first few patients. Subsequent reports showed that ribavirin was associated with a high rate of toxicity and lacked in vitro antiviral effect on SARS-coronavirus (SAR-CoV).
- **Option C:** The timing and dosage regimens of steroids in the treatment of SARS are controversial. Pulse methylprednisolone 250 to 500 mg/day for 3 to 6 days has been reported to have some efficacy in a subset of patients with "critical SARS", i.e., critically ill SARS patients with deteriorating radiographic consolidation, increasing oxygen requirement with PaO₂ <10 kPa or SpO₂ <90% on air, and respiratory distress (rate of 30/min).
- **Option D:** Handle these specimens using Universal Precautions, which includes use of gloves, gown, mask, and eye protection. Any procedure with the potential to generate fine-particulate aerosols (e.g., vortexing or sonication of specimens in an open tube) should be performed in a biological safety cabinet (BSC).

6. Which of the following is described as premature separation of a normally implanted placenta during the second half of pregnancy, usually with severe hemorrhage?

- Placenta previa

- B. Ectopic pregnancy
- C. Incompetent cervix
- D. Abruptio placenta

Correct Answer: D. Abruptio placentae

Abruptio placenta is described as premature separation of a normally implanted placenta during the second half of pregnancy, usually with severe hemorrhage.

- **Option A:** Placenta previa refers to implantation of the placenta in the lower uterine segment, causing painless bleeding in the third trimester of pregnancy.
- **Option B:** Ectopic pregnancy refers to the implantation of the products of conception in a site other than the endometrium.
- **Option C:** Incompetent cervix is a condition characterized by painful dilation of the cervical os without uterine contractions.

7. A client with pneumonia develops dyspnea with a respiratory rate of 32 breaths/minute and difficulty expelling his secretions. The nurse auscultates his lung fields and hears bronchial sounds in the left lower lobe. The nurse determines that the client requires which of the following treatments first?

- A. Antibiotics
- B. Bed rest
- C. Oxygen
- D. Nutritional intake

Correct Answer: C. Oxygen

The client is having difficulty breathing and is probably becoming hypoxic. As an emergency measure, the nurse can provide oxygen without waiting for a physician's order. Anticipate the need for supplemental oxygen or intubation if the patient's condition deteriorates. These measures are needed to correct hypoxemia. Intubation is needed for deep suctioning efforts and provides a source for augmenting oxygenation.

- **Option A:** Antibiotics may be warranted, but this isn't a nursing decision. Administer prescribed antimicrobial agents as ordered. To prevent relapse of pneumonia, the patient needs to complete the course of antibiotics as prescribed.
- **Option B:** The client should be maintained on bedrest if he is dyspneic to minimize his oxygen demands, but providing additional will deal more immediately with his problem. Encourage adequate rest balanced with moderate activity. Promote adequate nutritional intake. Facilitates the healing process and enhances natural resistance.
- **Option D:** The client will need nutritional support, but while dyspneic, he may be unable to spare the energy needed to eat and at the same time maintain adequate oxygenation. Maintain adequate nutrition to offset hypermetabolic state secondary to infection. Ask the dietary department to provide a high-calorie, high-protein diet consisting of soft, easy-to-eat foods.

8. Serotonin release stimulates vomiting following chemotherapy. Therefore, serotonin antagonists are effective in preventing and treating nausea and

vomiting related to chemotherapy. An example of an effective serotonin antagonist antiemetic is:

- A. ondansetron (Zofran).
- B. fluoxetine (Prozac).
- C. paroxetine (Paxil).
- D. sertraline (Zoloft).

Correct Answer: A. ondansetron (Zofran).

Chemotherapy often induces vomiting centrally by stimulating the chemoreceptor trigger zone (CTZ) and peripherally by stimulating visceral afferent nerves in the GI tract. Ondansetron (Zofran) is a serotonin antagonist that blocks the effects of serotonin and prevents and treats nausea and vomiting. It is especially useful in single-day highly emetogenic cancer chemotherapy (for example, cisplatin). The agents in options 2-4 are selective serotonin reuptake inhibitors. They increase the available levels of serotonin.

- **Option B:** Fluoxetine has FDA-approval for major depressive disorder (age eight and older), obsessive-compulsive disorder (age seven and older), panic disorder, bulimia, binge eating disorder, premenstrual dysphoric disorder, bipolar depression (as an adjunct with olanzapine also known as Symbyax), and treatment-resistant depression when used in combination with olanzapine. Fluoxetine exerts its effects by blocking the reuptake of serotonin into presynaptic serotonin neurons by blocking the reuptake transporter protein located in the presynaptic terminal.
- **Option C:** Paroxetine is a selective serotonin reuptake inhibitor (SSRI), and, as such, is identified as an antidepressant. It is FDA approved for major depressive disorder (MDD), obsessive-compulsive disorder (OCD), social anxiety disorder (SAD), panic disorder, posttraumatic stress disorder (PTSD), generalized anxiety disorder (GAD), and premenstrual dysphoric disorder (PMDD), vasomotor symptoms associated with menopause. As an SSRI class drug, paroxetine's signature mechanism of action is to block the serotonin reuptake transporter (SERT) and thus increase the concentration of synaptic serotonin.
- **Option D:** Sertraline is an antidepressant used as a first-line treatment of a major depressive disorder. The Food and Drug Administration (FDA) has also approved other indications for sertraline, including the treatment of obsessive-compulsive disorder, panic disorder, post-traumatic stress disorder, premenstrual dysphoric disorder, and social anxiety disorder. Sertraline is an antidepressant medication within the selective serotonin reuptake inhibitors (SSRIs) class. Sertraline is an antidepressant with primarily inhibitory effects on presynaptic serotonin reuptake. This inhibition of serotonin reuptake results in an accumulation of serotonin.

9. The outcome that is unrelated to a crisis state is:

- A. Learning more constructive coping skills.
- B. Decompensation to a lower level of functioning.
- C. Adaptation and a return to a prior level of functioning.
- D. A higher level of anxiety continuing for more than 3 months.

Correct Answer: D. A higher level of anxiety continuing for more than 3 months.

This is not an expected outcome of a crisis because by definition a crisis would be resolved in 6 weeks. A crisis is defined as an overwhelming event, which can include divorce, violence, the passing of a

loved one, or the discovery of a serious illness. A successful intervention involves obtaining background information on the patient, establishing a positive relationship, discussing the events, and providing emotional support.

- **Option A:** Crisis intervention is a short-term management technique designed to reduce potential permanent damage to an individual affected by a crisis. SAFER-R is a common intervention model used, which consists of stabilization, acknowledgment, facilitate understanding, encouragement, recovery, and referral. SAFER-R helps patients return to their mental baseline following a crisis. The use of humor, emotional support, planning, and acceptance also correlate with superior mental health outcomes compared to substance abuse and denial. Positive coping mechanisms, such as the ones listed above, are reported to be effective in crisis management, and with crisis intervention services in place, people will be better equipped to handle unexpected events.
- **Option B:** SAFER-R can be used in conjunction with the Assessment Crisis Intervention Trauma Treatment (ACT), which is a seven-stage crisis intervention model. It consists of assessing the affected person, establishing a relationship, understanding the problem, confronting emotions, exploring coping strategies, implementing a plan, and following up. If left unmanaged, a person with a severe crisis can undergo a significant amount of psychological stress, which carries links to major depressive disorder and other mental health conditions. Not only is crisis intervention effective in preventing the development of mental illness, but it can also be used in a clinical setting to treat patients currently suffering from one.
- **Option C:** Psychological crisis intervention is necessary to prevent traumatized victims from developing illnesses. It also alleviates stress upon healthcare workers so that they can continue helping others. Another major concern is what coping strategies are most effective. Social support and problem-solving planning are effective coping mechanisms that are frequently used by school staff following a crisis.

10. A client who has frequent watery stools and a possible *Clostridium difficile* infection is hospitalized with dehydration. Which nursing action should the charge nurse delegate to an LPN/LVN?

- A. Assess the client's hydration status
- B. Explain the purpose of ordered stool cultures to the client and family
- C. Administer metronidazole (Flagyl) 500 mg PO as ordered to the client
- D. Review the client's medical history for any risk factors for diarrhea

Correct Answer: C. Administer metronidazole (Flagyl) 500 mg PO as ordered to the client

LPN/LVN education and scope of practice and education include the administration of medications. The administration of medications is recognized as the responsibility of the Registered Nurse (RN) and *Licensed Practical Nurses (LPNs). All orders for medications must be legible, complete, and non-ambiguous.

- **Option A:** The scope of practice for the registered nurse will most likely include the legal ability of the registered professional nurse to perform all phases of the nursing process including assessment, nursing diagnosis, planning, implementation, and evaluation.
- **Option B:** Teaching is a complex activity that should be carried out by a licensed nurse. An LPN can reinforce an RN's patient teaching, but not perform independent patient education or assessments.

- **Option D:** Assessment of risk factors for diarrhea should be done by a licensed nurse. A Licensed Practical Nurse (LPN) may not perform an initial assessment. Initial assessments are to be performed by a Registered Nurse (RN). The initial assessment is to be used to determine a patient's baseline and develop an initial nursing plan of care.

11. A 43-year-old African American male is admitted with sickle cell anemia. The nurse plans to assess circulation in the lower extremities every 2 hours. Which of the following outcome criteria would the nurse use?

- A. Body temperature of 99°F or less
- B. Toes moved in active range of motion
- C. Sensation reported when soles of feet are touched
- D. Capillary refill of < 3 seconds

Correct Answer: D. Capillary refill of < 3 seconds

It is important to assess the extremities for blood vessel occlusion in the client with sickle cell anemia because a change in capillary refill would indicate a change in circulation.

- **Options A, B, and C:** Body temperature, motion, and sensation would not give information regarding peripheral circulation.

12. A 15-year-old female with a history of depression is brought to the emergency department. Nurse's Notes: 1115: A 15-year-old female with a history of depression and recent relationship troubles with her close friends is brought to the emergency department by her concerned parents after they found an empty bottle of maximum-strength acetaminophen in her room. Upon questioning, the patient tearfully admits to ingesting 15 tablets of the medication 45 minutes ago. She is visibly anxious and frequently looks at the marks on her wrists, which seem to be superficial scratches. Vital signs as of 1115: Blood pressure: 120/70 Heart rate: 88 bpm Respiratory rate: 18 bpm Oxygen saturation: 98% on room air As the nurse prepares to address the situation, several orders from the primary care provider come in. Which of the following orders should the nurse prioritize and carry out first?

- A. Perform gastric lavage
- B. Administer acetylcysteine (Mucomyst) orally
- C. Start an IV with Dextrose 5% and 0.33% normal saline
- D. Have the patient drink activated charcoal mixed with water
- E. Conduct a psychiatric evaluation.
- F. Apply wrist restraints to prevent further self-harm.

Correct Answer: B. Administer acetylcysteine (Mucomyst) orally

Although gastric lavage can help remove any remaining acetaminophen from the stomach, it is not the priority intervention in this situation. Administering the antidote, acetylcysteine (Mucomyst), should be

the primary focus to counteract the toxic effects of acetaminophen on the liver. Acetylcysteine is the antidote for acetaminophen toxicity and should be administered as soon as possible to maximize its effectiveness in preventing liver damage.

13. Carl, an elementary student, was rushed to the hospital due to vomiting and a decreased level of consciousness. The patient displays slow and deep (Kussmaul breathing), and he is lethargic and irritable in response to stimulation. He appears to be dehydrated—his eyes are sunken and mucous membranes are dry—and he has a two-week history of polydipsia, polyuria, and weight loss. Measurement of arterial blood gas shows pH 7.0, PaO₂ 90 mm Hg, PaCO₂ 23 mm Hg, and HCO₃ 12 mmol/L; other results are Na⁺ 126 mmol/L, K⁺ 5 mmol/L, and Cl⁻ 95 mmol/L. What is your assessment?

- A. Respiratory Acidosis, Uncompensated
- B. Respiratory Acidosis, Partially Compensated
- C. Metabolic Alkalosis, Uncompensated
- D. Metabolic Acidosis, Partially, Compensated

Correct Answer: D. Metabolic Acidosis, Partially, Compensated

The student was diagnosed with diabetes mellitus. The results show that he has metabolic acidosis (low HCO₃⁻) with respiratory compensation (low CO₂).

14. Once a nurse assesses a client's condition and identifies appropriate nursing diagnoses, a:

- A. Plan is developed for nursing care.
- B. Physical assessment begins.
- C. List of priorities is determined.
- D. Review of the assessment is conducted with other team members.

Correct Answer: A. Plan is developed for nursing care.

The planning stage is where goals and outcomes are formulated that directly impact patient care based on EDP guidelines. These patient-specific goals and the attainment of such assist in ensuring a positive outcome. Nursing care plans are essential in this phase of goal setting.

- **Option B:** Assessment is the first step and involves critical thinking skills and data collection; subjective and objective. Subjective data involves verbal statements from the patient or caregiver. Objective data is measurable, tangible data such as vital signs, intake and output, and height and weight.
- **Option C:** A nursing diagnosis encompasses Maslow's Hierarchy of Needs and helps to prioritize and plan care based on patient-centered outcomes. In 1943, Abraham Maslow developed a hierarchy based on basic fundamental needs innate for all individuals.
- **Option D:** Data may come from the patient directly or from primary caregivers who may or may not be direct relation family members. Friends can play a role in data collection. Electronic health records may populate data and assist in assessment.

15. A with tumor lysis syndrome (TLS) is taking Zyloprim (allopurinol). Which laboratory value should the nurse monitor to determine the effectiveness of the medication?

- A. Blood urea nitrogen (BUN)
- B. Serum phosphate
- C. Serum potassium
- D. Uric acid level

Correct Answer: D. Uric acid level

- **Option D:** Allopurinol is used to decrease uric acid levels so a monitoring of serum uric acid is essential.
- **Options A, B, and C:** UN, potassium, and phosphate levels are also increased in TLS but are not affected by allopurinol therapy.

16. A teen hospitalized with anorexia nervosa is now permitted to leave her room and eat in the dining room. Which of the following nursing interventions should be included in the client's plan of care?

- A. Weighing the client after she eats
- B. Having a staff member remain with her for 1 hour after she eats
- C. Placing high-protein foods in the center of the client's plate
- D. Providing the client with child-size utensils

Correct Answer: B. Having a staff member remain with her for 1 hour after she eats

- **Option B:** Having a staff member remain with the client for 1 hour after meals will help prevent the incidence of self-induced vomiting.
- **Option A:** The client will weigh more after meals, which can undermine treatment.
- **Option C:** The client will need a balanced diet and excess protein might not be well tolerated at first.
- **Option D:** Giving child-size utensils treats the client as a child rather than as an adult.

17. Jose is in danger of respiratory arrest following the administration of a narcotic analgesic. An arterial blood gas value is obtained. Nurse Oliver would expect the paco2 to be which of the following values?

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

Correct Answer: D. 80 mm Hg

A client about to go into respiratory arrest will have inefficient ventilation and will be retaining carbon dioxide. The value expected would be around 80 mm Hg. All other values are lower than expected.

- **Option A:** 15 mmHg is a low value for a client about to go into respiratory arrest.
- **Option B:** 30 mmHg is lower than the expected value because of inefficient ventilation.
- **Option C:** 40 mmHg is still less than the expected value for a client who is about to go into respiratory arrest.

18. What should be done in order to prevent contaminating the environment in bed making?

- A. Avoid fanning soiled linens
- B. Strip all linens at the same time
- C. Finished both sides at the time
- D. Embrace soiled linen

Correct Answer: A. Avoid fanning soiled linens

Fanning soiled linens would scatter the lodged microorganisms and dead skin cells on the linens. Healthcare linens are known to harbor a number of microorganisms. Most notably, there is an increased concern that methicillin-resistant *Staphylococcus aureus* (MRSA) and vancomycin-resistant *Enterococcus* (VRE) can survive for days on linens. There is further concern that these contaminated linens then become a potential source of cross-contamination.

- **Option B:** There is now a common understanding that linens, once in use, are usually contaminated and could be harboring microorganisms such as MRSA and VRE. Further, the Centers for Disease Control and Prevention (CDC) cautions that healthcare professionals should handle contaminated textiles and fabrics with minimum agitation to avoid contamination of air, surfaces, and persons. Even one of the leading nursing textbooks, *Fundamentals of Nursing*, Soiled linen is never shaken in the air because shaking can disseminate secretions and excretions and the microorganisms they contain. This text also states linens that have been soiled with excretions and secretions harbor microorganisms that can be transmitted to others.
- **Option C:** Healthcare laundry protocols have long relied on chlorine-based sanitizers to kill bacteria in bed linens and other fabrics. While chlorine is known as one of the best antimicrobial agents in the world, its power has been limited because it evaporates from untreated fabric soon after laundering. But with this new patented technology in HaloShield® linens, the chlorine keeps killing bacteria right up until the next laundering.
- **Option D:** The environment in which linens are used in healthcare is often ideal for the proliferation and spread of bacteria and viruses. Often the patient, in a weakened or compromised state, is lying on a sheet. That sheet under the patient's body is warm, dark, and sometimes damp. Most would agree that those conditions are considered ideal for bacteria and viruses to thrive.

19. A 45-year-old male patient who recently underwent a kidney transplant is being monitored in the post-operative period. During a routine check-up, the patient reports feeling generally unwell and expresses discomfort in the area of the transplant. The nurse is vigilant for signs of organ rejection. Which of the following assessments would most strongly prompt the nurse to suspect organ rejection?

- A. Sudden weight loss
- B. Polyuria
- C. Hypertension
- D. Shock

Correct Answer: C. Hypertension

Hypertension, along with fever, and tenderness over the grafted kidney, reflects acute rejection.

20. Referencing the image below, what is the name of the structure marked #8.

- A. Minor calyx
- B. Major calyx
- C. Cortical blood vessels
- D. Interlobal blood vessels
- E. Arcuate blood vessels
- F. Renal vein
- G. Renal nerve
- H. Renal artery
- I. Renal pelvis
- J. Renal pyramid

Correct answer: #8 is Option B. Major calyx

The major calyces are larger than the minor calyces and collect urine from multiple minor calyces. The major calyces merge to form the renal pelvis, which is the main collecting duct of the kidney.

21. 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.

22. The client on Haldol has pill rolling tremors and muscle rigidity. He is likely manifesting:

- A. Tardive dyskinesia
- B. Pseudoparkinsonism
- C. Akinesia
- D. Dystonia

Correct Answer: B. Pseudoparkinsonism

Pseudoparkinsonism is a side effect of antipsychotic drugs characterized by mask-like faces, pill-rolling tremors, muscle rigidity. Patients with this disorder have apraxic slowness, paratonic rigidity, frontal gait disorder, and elements of akinesia that, taken together, may be mistaken for true parkinsonism. Pseudoparkinsonism appears to be common and is most often due to Alzheimer's disease or vascular dementia.

- **Option A:** Tardive dyskinesia is manifested by lip-smacking, wormlike movement of the tongue. Tardive dyskinesia (TD) is a syndrome that includes a group of iatrogenic movement disorders caused due to a blockade of dopamine receptors. The movement disorders include akathisia, dystonia, buccolingual stereotypy, myoclonus, chorea, tics, and other abnormal involuntary movements which are commonly caused by the long-term use of typical antipsychotics.
- **Option C:** Akinesia is characterized by a feeling of weakness and muscle fatigue. The term akinesia refers to the inability to perform a clinically perceivable movement. It can present as a delayed response, freezing mid-action, or even total abolition of movement. Akinesia occurs when movement is not perceived either because the amplitude of the movement is small or because the

time taken to initiate the reaction is significantly increased.

- **Option D:** Dystonia is manifested by torticollis and rolling back of the eyes. Dystonia is defined by involuntary maintained contraction of agonist and antagonist muscles yielding abnormal posturing, twisting, and repetitive movements or tremulous and can be initiated or worsened by attempted movement.

23. A client was infected with TB 10 years ago but never developed the disease. He's now being treated for cancer. The client begins to develop signs of TB. This is known as which of the following types of infection?

- A. Active infection
- B. Primary infection
- C. Superinfection
- D. Tertiary infection

Correct Answer: A. Active infection

Some people carry dormant TB infections that may develop into active disease. In addition, primary sites of infection containing TB bacilli may remain inactive for years and then activate when the client's resistance is lowered, as when a client is being treated for cancer. There's no such thing as tertiary infection, and superinfection doesn't apply in this case.

- **Option B:** Primary (initial) infection is usually indicated by tuberculin skin test (TST) or interferon-gamma release assay (IGRA) conversion, which reflects a delayed type hypersensitivity reaction to protein products of *M. tuberculosis*. Primary infection remains undiagnosed in the majority of cases, as symptoms are mild, non-specific, and usually self-resolving.
- **Option C:** Superinfection is the process by which a cell that has previously been infected by one virus gets co-infected with a different strain of the virus, or another virus, at a later point in time. Viral superinfections may be resistant to the antiviral drug or drugs that were being used to treat the original infection.
- **Option D:** There is no tertiary infection in tuberculosis. A re-infection event probably triggers very similar responses to those observed with primary (first-time) infection and the risk of subsequent disease progression seems to be substantially reduced. However, re-infection is likely to occur multiple times during the lifetime of an individual living in a TB endemic area, which explains its large contribution to the disease burden observed.

24. Which of the following conditions indicates that spinal shock is resolving in a client with C7 quadriplegia?

- A. Absence of pain sensation in chest
- B. Spasticity
- C. Spontaneous respirations
- D. Urinary continence

Correct Answer: B. Spasticity

Spasticity, the return of reflexes, is a sign of resolving shock. Spinal or neurogenic shock is characterized by hypotension, bradycardia, dry skin, flaccid paralysis, or the absence of reflexes below the level of injury. Spinal shock is a result of severe spinal cord injury. It usually requires high-impact, direct trauma that leads to spinal cord injury and spinal shock. The initial encounter with a patient that has spinal shock is usually under a trauma scenario.

- **Option A:** The absence of pain sensation in the chest doesn't apply to spinal shock. With high cervical injuries, the diaphragmatic function will be compromised, and these patients will necessitate early tracheotomy since they will be ventilator dependent. Deep vein thrombosis is excessively high in these patients.
- **Option C:** Spinal shock descends from the injury, and respiratory difficulties occur at C4 and above. In spinal shock, there is a transient increase in blood pressure due to the release of catecholamines. This is followed by a state of hypotension, flaccid paralysis, urinary retention, and fecal incontinence. The symptoms of spinal shock may last a few hours to several days/weeks.
- **Option D:** The full spinal examination should include motor, sensory reflexes including bulbocavernosus reflex and anal wink reflex. Motor activity and strength decrease not only in the skeletal muscles but the motor activity of internal organs like bowel and bladder. This decrease leads to constipation and urinary retention.

25. A patient with severe cirrhosis of the liver develops hepatorenal syndrome. Which of the following nursing assessment data would support this?

- A. Oliguria and azotemia
- B. Metabolic alkalosis
- C. Decreased urinary concentration
- D. Weight gain of less than 1 lb per week

Correct Answer: A. Oliguria and azotemia

Hepatorenal syndrome is a functional disorder resulting from a redistribution of renal blood flow. Oliguria and azotemia occur abruptly as a result of this complication. Confusion due to hepatic encephalopathy is likely the last and most severe stage of liver disease as a result of the liver failing to break down toxic metabolites. Most importantly these patients notice they urinate less frequently in smaller and smaller volumes as they become oliguric.

- **Option B:** Excess organic acids are not being excreted by the damaged kidneys, resulting in an elevated concentration of hydrogen ions; decreased pH occurs, causing metabolic acidosis. Cirrhosis and portal hypertension can trigger the neurohormonal cascade which leads to the development of HRS. This, in turn, causes the production and release of vasodilators and cytokines like nitric oxide and prostaglandins which cause splanchnic and systemic vasodilation.
- **Option C:** Concentration of the urine is increased with decreased renal function. The systemic drop in circulating pressure triggers the carotid and aortic arch baroreceptors to activate three separate compensatory mechanisms. These include the renin-angiotensin-aldosterone system, vasopressin release, and activation of the sympathetic nervous system (SNS).
- **Option D:** With renal insufficiency, significant weight gain is expected due to fluid retention. The progression of cirrhosis causes a fall in cardiac output and a fall in systemic vascular resistance in a cycle that induces further renal vasoconstriction. This leads to further renal hypoperfusion, worsened by renal vasoconstriction with the endpoint of renal failure.

26. What information is correct about stomach cancer?

- A. Stomach pain is often a late symptom.
- B. Surgery is often a successful treatment.
- C. Chemotherapy and radiation are often successful treatments.
- D. The patient can survive for an extended time with TPN.

Correct Answer: A. Stomach pain is often a late symptom.

Stomach pain is often a late sign of stomach cancer; outcomes are particularly poor when cancer reaches that point. In the United States, most patients have symptoms of an advanced stage at the time of presentation. The most common presenting symptoms for gastric cancers are non-specific weight loss, persistent abdominal pain, dysphagia, hematemesis, anorexia, nausea, early satiety, and dyspepsia.

- **Option B:** Surgery has minimal positive effects. Patients with localized, resectable gastric cancer have the best chance of long-term survival with surgery alone. The main goal of surgery is complete resection with adequate margins (more than 4 cm), and only 50% of patients will obtain R0.
- **Option C:** Chemotherapy and radiation have minimal positive effects. Neoadjuvant chemotherapy has been shown to downstage primary tumors and regional lymph nodes to attempt higher long-term curative resections. Neoadjuvant therapy should be offered to patients at high risk of developing distant metastases (bulky T3/T4, perigastric nodes, linitis plastica, or positive peritoneal cytology), sparing unnecessary surgery in case an emerging metastasis appears.
- **Option D:** TPN may enhance the growth of cancer. Total parenteral nutrition is known to be effective in cases of malnutrition in patients who do not have cancer. However, TPN has not been shown to positively affect the nutritional status in patients with cancer. This is due in part to the metabolic changes associated with cancer.

27. Which nursing response is an example of the nontherapeutic communication block of requesting an explanation?

- A. "Can you tell me why you said that?"
- B. "Keep your chin up. I'll explain the procedure to you."
- C. "There is always an explanation for both good and bad behaviors."
- D. "Are you not understanding the explanation I provided?"

Correct Answer: A. "Can you tell me why you said that?"

This nursing statement is an example of the nontherapeutic communication block of requesting an explanation. Requesting an explanation is when the client is asked to provide the reason for thoughts, feelings, behaviors, and events. Asking "why" a client did something or feels a certain way can be very intimidating and implies that the client must defend his or her behavior or feelings.

- **Option B:** Stereotyped comments refer to offering meaningless cliches or trite comments. Social conversations contain many cliches and much meaningless chit-chat. Such comments are of no value in the nurse-client relationship. Any automatic responses will lack the nurse's consideration or thoughtfulness.

- **Option C:** Attempts to dispel the client's anxiety by implying that there is not sufficient reason for concern completely devalue the client's feelings. Vague reassurances without accompanying facts are meaningless to the client.
- **Option D:** Interpreting refers to making conscious that which is unconscious to the client. The client's thoughts and feelings are his own, not to be interpreted by the nurse or for hidden meaning. Only the client can identify or confirm the presence of feelings.

28. To gain access to the vein and artery, an AV shunt was used for Mr. Roberto. The most serious problem with regards to the AV shunt is:

- A. Septicemia
- B. Clot formation
- C. Exsanguination
- D. Vessel sclerosis

Correct Answer: C. Exsanguination

Exsanguination from hemodialysis vascular sites may cause a rapid death. These fatal shunt hemorrhages are rapid and large due to their superficial subcutaneous locations and elevated shunt pressures from the arterial-venous anastomosis.

- **Option A:** Bacterial sepsis, a major complication of chronic hemodialysis, is due mainly to infections of the vascular access site despite increasing use of internal fistulas. Bovine heterograft arteriovenous fistulas more often led to sepsis than did Brescia arteriovenous fistulas. Treatment with appropriate antibiotics was successful in most cases. Routine removal or ligation of the vascular access site was not necessary.
- **Option B:** A narrowing of an artery that feeds the AV fistula or graft can slow the flow of blood through the access during treatment. If the blood flow is significantly reduced, it can lead to inadequate dialysis, and is quite likely to cause the access to become totally blocked or clotted.
- **Option D:** Vascular sclerosis is often seen in renal biopsies. It is usually associated with diabetes mellitus, hypertension, smoking, etc. However, whether inherited thrombophilic states such as factor V gene mutation, prothrombin gene mutation, and methylenetetrahydrofolate reductase (MTHFR) gene mutation are associated with vascular sclerosis is not known.

29. In which of the following disorders would the nurse expect to assess sacral edema in a bedridden client?

- A. Diabetes
- B. Pulmonary emboli
- C. Renal failure
- D. Right-sided heart failure

Correct Answer: D. Right-sided heart failure

The most accurate area on the body to assess dependent edema in a bed-ridden client is the sacral area. Sacral, or dependent, edema is secondary to right-sided heart failure. This is because the heart is too weak to pump blood around the body properly, so the blood gathers in front of the heart. Because of this, and due to the increased blood pressure in the veins, fluid seeps out into the surrounding tissue.

This may cause swelling in the legs or a build-up of fluid in the abdomen. If the person spends a lot of time lying down, the edema might show up on his or her back (called sacral edema).

- **Option A:** If there is a lack of the protein albumin in the blood, fluid can leak out of blood vessels more easily. Low protein in the blood can be caused by extreme malnutrition, as well as kidney and liver diseases which mean that the body loses too much or produces too little protein.
- **Option B:** Venous insufficiency can cause edema in the feet and ankles, because the veins are having trouble transporting enough blood all the way to the feet and back to the heart. This means that it gathers in the legs, and fluid is forced out of the blood vessels into the surrounding tissue. Edema can also be caused by varicose veins.
- **Option C:** Kidney disease could cause edema in the legs and around the eyes, because when the kidneys do not remove enough sodium and water from the body, the pressure in the blood vessels starts building up, which can lead to edema.

30. A client who frequently exhibits angry outbursts is diagnosed with antisocial personality disorder. Which appropriate feedback should a nurse provide when this client experiences an angry outburst?

- A. "Why do you continue to alienate your peers by your angry outbursts?"
- B. "You accomplish nothing when you lose your temper like that."
- C. "Showing your anger in that manner is very childish and insensitive."
- D. "During group, you raised your voice, yelled at a peer, left, and slammed the door."

Correct Answer: D. "During the group, you raised your voice, yelled at a peer, left, and slammed the door."

The nurse is providing appropriate feedback when stating, "During the group, you raised your voice, yelled at a peer, left, and slammed the door." Giving appropriate feedback involves helping the client consider a modification of behavior. Feedback should give information to the client about how he or she is perceived by others. Feedback should not be evaluative in nature or be used to give advice.

- **Option A:** Requesting an explanation or asking the client to provide reasons for thoughts, feelings, behaviors or events is nontherapeutic. There is a difference between asking the client to describe what is occurring or has taken place and asking him to explain why. Usually, a "why" question is intimidating.
- **Option B:** Telling the client what to do or giving an opinion or making decisions for the client is inappropriate and nontherapeutic. It implies that the client cannot handle life decisions and only the nurse knows what is best for the client.
- **Option C:** Disapproving or denouncing the client's behavior is nontherapeutic. Disapproval implies that the nurse has a right to pass judgement on the client's actions. It further implies that the client is expected to please the nurse.

31. The ABCD method offers one way to assess skin lesions for possible skin cancer. What does the A stand for?

- A. Assessment
- B. Arcus

- C. Actinic
- D. Asymmetry

Correct Answer: D. Asymmetry

- **Option D:** When following the ABCD method for assessing skin lesions, the A stands for “asymmetry,” the B for “border irregularity,” the C for “color variation,” and the D for “diameter.”

32. The nurse teaches the mother of a newborn that in order to prevent sudden infant death syndrome (SIDS) the best position to place the baby after nursing is? Select all that apply.

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

Correct Answer: B & C.

Research demonstrates that the occurrence of SIDS is reduced with these two positions. Sudden infant death syndrome (SIDS) is the abrupt and unexplained death of an infant less than 1-year old. Despite a thorough investigation (a careful review of clinical history, death scene investigation, and a complete autopsy), a cause for the patient's demise is not identified.

- **Option A:** Studies suggest that the prone positioning predisposes to suffocation, resulting from decreased arousal, the type of bedding material, and overheating. Studies have demonstrated that prone sleeping is associated with longer sleep duration, longer obstructive events, and decreased arousal.
- **Option B:** Side sleeping can also be safe as the baby grows and gets stronger. The baby gets more and more active during sleep as they approach their first birthday — which, thankfully, is also when a lot of these sleep-position worries go away.
- **Option C:** The incidence of SIDS declined by more than 50 percent in the United States after physicians began to promote “On the back to sleep.” After the American Academy of Pediatrics (AAP) issued a recommendation for supine sleeping in 1992, the incidence of SIDS decreased.
- **Option D:** Back sleeping with an alternating head position is best. It's true that babies are born with softer skulls. They also have weak neck muscles in the early months of life. Give the baby plenty of supervised tummy time during the day. This helps to prevent a flat head and encourages the baby to develop their neck, arm, and upper-body muscles.

33. With the image below, what is the name of the structure marked #2?

- A. Bladder
- B. Ureter
- C. Spleen
- D. Urethra
- E. Descending colon

F. Eustachian tube

Correct answer: B. Ureter

- The ureters are two muscular tubes that carry urine from the kidneys to the bladder. They are about 25-30 centimeters long in adults.
- The ureters begin at the renal pelvis, which is the funnel-shaped collecting duct at the top of the kidney. They then travel down the back of the abdomen and enter the bladder through the ureteric orifices.
- The ureters are lined with a mucous membrane that helps to protect them from infection. They also contain smooth muscle tissue that helps to propel urine to the bladder.

34. A pediatric orthopedic surgeon is explaining the different bone formation processes to the parents of a 2-year-old boy born with a cranial bone defect. The surgeon describes a specific type of bone formation that occurs directly within connective tissue membranes, particularly seen in flat bones like the skull. He asks the parents: "Which term best describes the process where osteoblasts begin to form bone directly in connective tissue membranes?"

- A. Endochondral ossification
- B. Bone growth
- C. Intramembranous ossification
- D. Bone remodeling

Correct Answer: C. Intramembranous ossification

Intramembranous ossification is a process of bone formation in which bone tissue forms directly within a connective tissue membrane. It occurs primarily in the development of flat bones, such as the skull and clavicles, where mesenchymal cells differentiate into osteoblasts and deposit bone matrix, resulting in the formation of flat bones without the involvement of cartilage as in endochondral ossification.

- **Option A:** Endochondral ossification is the formation of long bones and other bones which include a hyaline cartilage precursor.
- **Option B:** Bone growth occurs by the deposition of new bone lamellae onto existing bone or other connective tissue.
- **Option D:** Bone remodeling involves the removal of existing bone by osteoclasts and the deposition of new bone by osteoblasts.

35. A client arrives at a prenatal clinic for the first prenatal assessment. The client tells a nurse that the first day of her last menstrual period was September 19th, 2013. Using Naegele's rule, the nurse determines the estimated date of confinement as:

- A. July 26, 2013
- B. June 12, 2014
- C. June 26, 2014
- D. July 12, 2014

Correct Answer: C. June 26, 2014.

Accurate use of Naegele's rule requires that the woman has a regular 28-day menstrual cycle. Add 7 days to the first day of the last menstrual period, subtract three months, and then add one year to that date.

- **Option A:** An average pregnancy lasts 280 days from the first day of the last menstrual period (LMP) or 266 days after conception. Historically, an accurate LMP is the best estimator to determine the due date.
- **Option B:** Naegele's rule, derived from a German obstetrician, subtracts 3 months and adds 7 days to calculate the estimated due date (EDD). It is prudent for the obstetrician to get a detailed menstrual history, including duration, flow, previous menstrual periods, and hormonal contraceptives. These factors are used to determine the length of her cycles and ovulation period.
- **Option D:** There are several fallacies with Naegele's rule. First, a woman may not accurately recall the first day of her menstrual cycle. Second, this method assumes a woman's cycle is exactly 28 days, with ovulation occurring at day 14, however, it does not consider menstrual cycles with shorter or longer durations. Third, there are small variations in the duration between fertilization and blastocyst implantation. Last, this method cannot differentiate between menstrual bleeding and early pregnancy bleeding.

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

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

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

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

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

37. A gravidocardiic mother is advised to observe bed rest primarily to:

- A. Allow the fetus to achieve normal intrauterine growth.
- B. Minimize oxygen consumption which can aggravate the condition of the compromised heart of the mother.
- C. Prevent perinatal infection.
- D. Reduce incidence of premature labor.

Correct Answer: B. Minimize oxygen consumption which can aggravate the condition of the compromised heart of the mother.

The activity of the mother will require more oxygen consumption. Since the heart of a gravido-cardiac is compromised, there is a need to put a mother on bedrest to reduce the need for oxygen.

- **Option A:** In cases of maternal decompensation, fetal monitoring should also be done to ensure fetal well-being. Women with moderate-risk or high-risk lesions, especially cyanotic lesions, have an increased risk of fetal growth restriction and should be followed with monthly ultrasound examinations for fetal growth.
- **Option C:** The 2011 update to the American Heart Association guideline for the prevention of cardiovascular disease (CVD) in women recommends that risk assessment at any stage of life include a detailed history of pregnancy complications. Gestational diabetes, preeclampsia, preterm birth, and birth of an infant small for gestational age are ranked as major risk factors for CVD.
- **Option D:** During the third trimester, cardiac output is further influenced by body position, where the supine position causes caval compression by the gravid uterus. This leads to a decrease in venous return, which can cause supine hypotension of pregnancy. Stroke volume normally increases in the first and second trimester and decreases in the third trimester. This decrease is due to partial vena cava obstruction.

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

- A. They contain exudate and provide a moist wound environment.
- B. They protect the wound from mechanical trauma and promote healing.
- C. They debride the wound and promote healing by secondary intention.
- D. They prevent the entrance of microorganisms and minimize wound discomfort.

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

For this client, wet-to-dry dressings are most appropriate because they clean the foot ulcer by debriding exudate and necrotic tissue, thus promoting healing by secondary intention. Treatment of diabetic foot ulcers should be systematic for an optimal outcome. The most important point is to identify if there is any evidence of ongoing infection, by obtaining a history of chills, fever, looking for the presence of purulence or presence of at least two signs of inflammation that includes, pain, warmth, erythema or induration of the ulcer.

- **Option A:** Moist, transparent dressings contain exudate and provide a moist wound environment. Transparent films are indicated for use as primary or secondary dressings for wounds with little to no exudate such as stage I and II pressure ulcers, partial-thickness wounds, donor sites, and

wounds with necrotic tissue or slough.

- **Option B:** Dry sterile dressings protect the wound from mechanical trauma and promote healing. Dry dressings are gauze pads that lie under rolled gauze and tape – and the category also includes standard bandages. You may have this type of dressing, which is intuitive and simple for most people to take care of and change, for wounds that are relatively dry themselves.
- **Option D:** Hydrocolloid dressings prevent the entrance of microorganisms and minimize wound discomfort. Hydrocolloid dressings provide a moist and insulating healing environment which protects uninfected wounds while allowing the body's own enzymes to help heal wounds. These dressings are unique because they don't have to be changed as often as some other wound dressings and are easy to apply.

39. Martha, a 73-year-old widow, tells the nurse during the admission process that she was recently diagnosed with age-related hearing loss. Upon receiving such information, the nurse is correct if he suspects:

- A. Ménière's disease
- B. Otagia
- C. Otitis media
- D. Presbycusis

Correct Answer: D. Presbycusis

The term presbycusis refers to sensorineural hearing impairment in elderly individuals. Presbycusis refers to bilateral age-related hearing loss. In literal terms, presbycusis means 'old hearing' or 'elder hearing'. It is the most common cause of hearing loss worldwide and is estimated to affect approximately two-thirds of Americans aged 70 or older.

- **Option A:** Meniere disease is a disorder of the inner ear characterized by hearing loss, tinnitus, and vertigo. In most cases, it is slowly progressive and has a significant impact on the social functioning of the individual affected.
- **Option B:** Otagia (ear pain) divides into two broad categories: primary and secondary otalgia. Primary otalgia is ear pain that arises directly from pathology within the inner, middle, or external ear. Secondary or referred otalgia is ear pain that occurs from pathology located outside the ear.
- **Option C:** Acute otitis media (AOM) is defined as an infection of the middle ear and is the second most common pediatric diagnosis in the emergency department following upper respiratory infections. Although acute otitis media can occur at any age, it is most commonly seen between the ages of 6 to 24 months.

40. A 65-year-old male with a history of poorly controlled diabetes mellitus is admitted to the wound care unit due to an ulcer on his right lower extremity. The wound culture revealed Methicillin-resistant Staphylococcus aureus (MRSA). The wound care team initiated an aggressive treatment plan including wound debridement, antibiotic therapy, and patient education on maintaining skin integrity to prevent further infections. The hospital's infection control team is focusing on breaking the chain of infection to control and prevent the spread of MRSA within the unit. Which element in the circular chain of infection can be eliminated by preserving skin integrity?

- A. Host
- B. Reservoir
- C. Mode of transmission
- D. Portal of entry
- E. Infectious agent
- F. Portal of exit
- G. Environment

Correct Answer: D. Portal of entry

Preserving skin integrity prevents a primary portal of entry for microorganisms, thereby breaking the chain of infection at this link. In the clinical scenario presented, it's clear that maintaining skin integrity is crucial in preventing further infections for the diabetic patient, particularly by closing a significant portal of entry for harmful pathogens like MRSA. Hence, the element of the circular chain of infection that can be eliminated by preserving skin integrity is the portal of entry.

- **Option A:** Host. Preserving skin integrity does not eliminate the host but rather protects the host from potential infections by blocking one route of entry for pathogens.
- **Option B:** Reservoir. The reservoir (e.g., human, animal, or environment where the infectious agent lives and multiplies) is not eliminated by preserving skin integrity.
- **Option C:** Mode of transmission. Preserving skin integrity may help in reducing the transmission of infection, but it doesn't eliminate the mode of transmission entirely, as there are other routes of transmission (e.g., respiratory, fecal-oral).
- **Option E:** Infectious agent. The infectious agent (e.g., bacteria, viruses, fungi, parasites) is not eliminated by maintaining skin integrity. Other measures such as antibiotic therapy are necessary to eliminate or control the infectious agent.
- **Option F:** Portal of exit. Maintaining skin integrity may help in reducing the portal of exit for infectious agents but it doesn't eliminate this link in the chain of infection.
- **Option G:** Environment. The environment where the infectious agent may reside is not eliminated by preserving skin integrity.

41. Polyethylene glycol-electrolyte solution (GoLYTELY) is prescribed for the female client scheduled for a colonoscopy. The client begins to experience diarrhea following the administration of the solution. What action by the nurse is appropriate?

- A. Start an IV infusion
- B. Administer an enema
- C. Cancel the diagnostic test
- D. Explain that diarrhea is expected

Correct Answer: D. Explain that diarrhea is expected.

The solution GoLYTELY is a bowel evacuant used to prepare a client for a colonoscopy by cleansing the bowel. The solution is expected to cause mild diarrhea and will clear the bowel in 4 to 5 hours. Polyethylene glycol electrolyte (PEG) is essential for a wide range of bowel preparation, with

advantages such as high security, reliable effect, no dehydration, and electrolyte disturbance.

- **Option A:** Starting an IV is unnecessary. Surveys, such as those conducted by Seo et al., have shown that colon cleanliness was the highest at time intervals of 3–5 h after a one-time oral administration of 4 L of PEG solution, whereas colon cleanliness was significantly decreased at time intervals of <3 or >7 h.
- **Option B:** Administering an enema would be inappropriate. Bacteria in intestinal feces account for 20%–30% of the solid weight of feces. This also accords with earlier observations that the PEG solution can only effectively remove solid residues in feces and has no significant effect on colonic bacteria and flora.
- **Option C:** Cancelling the test would be inappropriate. PEG solution combined with lactulose improves the quality of bowel preparation in patients with long interval P-C, which allows patients to have no restriction on the time of colonoscopy, and benefits more patients who need a colonoscopy.

42. The nurse in the mental health unit recognizes which of the following as therapeutic communication techniques? Select all that apply.

- A. Restating
- B. Listening
- C. Asking the patient "Why?"
- D. Maintaining neutral responses
- E. Providing acknowledgment and feedback
- F. Giving advice and approval or disapproval

Correct Answer: A, B, D, and E.

Therapeutic communication techniques include listening, maintaining silence, maintaining neutral responses, using broad openings and open-ended questions, focusing and refocusing, restating, clarifying and validating, sharing perceptions, reflecting, providing acknowledgment and feedback, giving information, presenting reality, encouraging formulation of a plan of action, providing nonverbal encouragement, and summarizing

- **Option A:** Restating is done to clarify the client's message by repeating the same statement back to the client. For example, when a client says, "I am ready to do some walking" and the nurse says, "Did I hear you say that you are now ready to do some walking?"
- **Option B:** Active listening involves showing interest in what patients have to say, acknowledging that you're listening and understanding, and engaging with them throughout the conversation. Nurses can offer general leads such as "What happened next?" to guide the conversation or propel it forward.
- **Option C:** Asking why is often interpreted as being accusatory by the patient and should also be avoided. Challenging, simply defined in this context, is forcing the client to defend and justify their opinions, beliefs, and feelings. Challenging shows a lack of respect for the client and a lack of acceptance of the client as a unique being who has and is entitled to, their own beliefs and opinions. The client has valid feelings that should never be challenged by the nurse.
- **Option D:** Focusing on the subject at hand decreases the risk of having these kinds of distractions impair the therapeutic communication process. For example, the nurse may say, "Mr. Burke, your family is very interesting and successful. Thank you for sharing this information with me. Now, let's

discuss your diabetes and the insulin that you will be taking after you leave the hospital”.

- **Option E:** Recognition, acknowledgment, and acceptance of the client and their thoughts which are conveyed during communication are therapeutic communication techniques and strategies that give the nurse the opportunity to let the client know that you are interested in them and respectful of them and their thoughts.
- **Option F:** Providing advice or giving approval or disapproval are barriers to communication. Telling the client what to do, giving opinions, or making decisions for the client, implies the client cannot handle his or her own life decisions and that the nurse is accepting responsibility.

43. Nurse Betina should begin screening for lead poisoning when a child reaches which age?

- A. 3 months
- B. 12 months
- C. 24 months
- D. 30 months

Correct Answer: B. 12 months

The nurse should start screening a child for lead poisoning at age 12 months and perform repeat screening at age 24, 30, and 36 months. The Advisory Committee on Childhood Lead Poisoning Prevention recommends that all children enrolled in Medicaid be screened for elevated blood lead levels at 12 and 24 months of age or at 36 to 72 months of age if they have not previously been screened.

- **Option A:** High-risk infants, such as premature infants and formula-fed infants not receiving iron supplementation, should be screened for iron deficiency anemia at 6 months. Early use and overuse of cow's milk exacerbates existing causes of iron deficiency in infants. Less often, the problem is due to a severe blood loss or something interfering with the body's ability to absorb iron, such as a medication the infant is taking or a chronic illness involving the stomach or intestines.
- **Option C:** The American Academy of Pediatrics (AAP) recommends that a risk assessment be performed for lead exposure at well-child visits at 6 months, 9 months, 12 months, 18 months, 24 months, and at 3, 4, 5, and 6 years of age. A blood lead level test should be done only if the risk assessment comes back positive.
- **Option D:** The American Academy of Pediatrics (AAP), as part of an expert committee representing several national healthcare organizations, makes the following recommendation: routine obesity screening of children aged 2 years old or older should include a yearly assessment of weight. BMI changes should be monitored by calculating and plotting BMI on the Centers for Disease Control and Prevention (CDC) growth charts at every healthcare visit.

44. Nurse Justin is taking care of a client with deep vein thrombosis. Which position should be provided to the client?

- A. Bed rest with the affected extremity remains flat at all times.
- B. Bed rest with the unaffected extremity on top of the affected extremity.
- C. Bed rest with the affected extremity in a dependent position.

D. Bed rest with the affected extremity elevated.

Correct Answer: D. Bed rest with the affected extremity elevated.

Bed rest is indicated to prevent emboli while the elevation of the affected leg facilitates blood flow by the force of gravity and reduces pain and edema. Elevating the legs can help to instantly relieve pain. A doctor may also instruct a patient to elevate the legs above the heart three or four times a day for about 15 minutes at a time. This can help to reduce swelling. If prolonged standing or sitting is necessary, bending the legs several times will help promote blood circulation.

- **Option A:** DVT develops as a result of being in a continuous seated prone positioning for 6 hours. Deep vein thrombosis and its sequelae such as PE can be severe or fatal. However, these consequences are preventable. Deep vein thrombosis may arise spontaneously or may be caused by trauma, surgery, or prolonged bed rest.
- **Option B:** Deep vein thrombosis is a clinical challenge for doctors because it can develop in any section of the venous system; however, it arises most frequently in the deep veins of the leg. There are reports of DVT developing in a fiberglass mold maker after 6 weeks of working in a kneeling position, and in a patient maintaining a prone position after spine surgery with a central venous catheter in place.
- **Option C:** A surgical operation where the patient is asleep (under general anesthetic) is the most common cause of a DVT. The legs are still when the client is under anesthetic because the muscles in the body are temporarily paralyzed. Blood flow in the leg veins can become very slow, making a clot more likely to occur. Certain types of surgery (particularly operations on the pelvis or legs) increase the risk of DVT even more.

45. Normal serum sodium concentration ranges from:

- A. 120 to 125 mEq/L
- B. 125 to 130 mEq/L
- C. 136 to 145 mEq/L
- D. 140 to 148 mEq/L

Correct Answer: C. 136 to 145 mEq/L

Normal serum sodium level ranges from 136 to 145 mEq/L. Sodium, which is an osmotically active anion, is one of the most important electrolytes in the extracellular fluid. It is responsible for maintaining the extracellular fluid volume, and also for regulation of the membrane potential of cells. Sodium is exchanged along with potassium across cell membranes as part of active transport.

- **Option A:** Sodium regulation occurs in the kidneys. The proximal tubule is where the majority of the sodium reabsorption takes place. In the distal convoluted tubule, sodium undergoes reabsorption. Sodium transport takes place via sodium-chloride symporters, which is by the action of the hormone aldosterone.
- **Option B:** Among the electrolyte disorders, hyponatremia is the most frequent. Diagnosis is when the serum sodium level less than 135 mmol/L. Hyponatremia has neurological manifestations. Patients may present with headache, confusion, nausea, delirium.
- **Option D:** Hypernatremia presents when the serum sodium levels greater than 145 mmol/L. Symptoms of hypernatremia include tachypnea, sleeping difficulty, and feeling restless. Rapid sodium corrections can have serious consequences like cerebral edema and osmotic demyelination syndrome.

46. A female patient suffers acute respiratory distress syndrome as a consequence of shock. The patient's condition deteriorates rapidly, and endotracheal intubation and mechanical ventilation are initiated. When the high-pressure alarm on the mechanical ventilator, alarm sounds, the nurse starts to check for the cause. Which condition triggers the high-pressure alarm?

- A. Kinking of the ventilator tubing.
- B. A disconnected ventilator tube.
- C. An endotracheal cuff leak.
- D. A change in the oxygen concentration without resetting the oxygen level alarm.

Correct Answer: A. Kinking of the ventilator tubing.

Conditions that trigger the high-pressure alarm include kinking of the ventilator tubing, bronchospasm or pulmonary embolism, mucus plugging, water in the tube, coughing or biting on endotracheal tube, and the patient's being out of breathing rhythm with the ventilator. If an alarm occurs, the caregiver should always evaluate the patient before checking the ventilator.

- **Option B:** A disconnected ventilator tube would trigger the low-pressure alarm. If the pressure inside the breathing circuit drops below the Low Airway Pressure Alarm limit set on the ventilator, an audible and/or visual alarm activates.
- **Option C:** Some causes for low-pressure alarms are: the patient becomes disconnected from the ventilator circuit; inadequate inflation of the tracheostomy tube cuff; poorly fitting noninvasive masks or nasal pillows/prongs; loose circuit and tubing connections; or the patient demands higher levels of air than the ventilator is putting out.
- **Option D:** Changing the oxygen concentration without resetting the oxygen level alarm would trigger the oxygen alarm. Oxygen concentration is the amount of oxygen delivered to the patient. When the patient is not receiving added oxygen, the oxygen level will be the same as room air (21%).

47. Mina, who is suspected of an ovarian tumor is scheduled for a pelvic ultrasound. The nurse provides which pre-procedure instruction to the client?

- A. Wear comfortable clothing and shoes for the procedure
- B. Maintain an NPO status before the procedure
- C. Drink six to eight glasses of water without voiding before the test
- D. Eat a light breakfast only

Correct Answer: C. Drink six to eight glasses of water without voiding before the test

- **Option C:** A pelvic ultrasound requires the ingestion of large volumes of water just before the procedure. A full bladder is necessary so that it will be visualized as such and not mistaken for possible pelvic growth.
- **Option A:** Comfortable shoes and clothing is unrelated to this specific procedure.
- **Option B:** An abdominal ultrasound may require that the client abstain from food or fluid for several hours before the procedure.

- **Option D:** A patient may eat and drink on the day of the exam regardless of quantity.

48. Which of the following hypotheses are indicative of an experimental research design? Select all that apply.

- A. Frequent irrigation of Foley catheters will be positively related to urinary tract infections.
- B. The incidence of urinary tract infections will be greater in patients whose Foley catheters are irrigated frequently than in those whose Foley catheters are irrigated less frequently.
- C. Frequent irrigation of Foley catheters is associated with urinary tract infections.
- D. The incidence of urinary tract infections will not differ between patients with or without Foley catheters.
- E. The perception of pain from patients who had catheters varies greatly.

Correct Answers: B, D

Experimental research, often considered to be the “gold standard” in research designs, is one of the most rigorous of all research designs. In this design, one or more independent variables are manipulated by the researcher (as treatments), subjects are randomly assigned to different treatment levels (random assignment), and the results of the treatments on outcomes (dependent variables) are observed.

- **Option A:** In experimental research, some subjects are administered one or more experimental stimuli called a treatment (the treatment group) while other subjects are not given such a stimulus (the control group). The treatment may be considered successful if subjects in the treatment group rate more favorably on outcome variables than control group subjects.
- **Option B:** The unique strength of experimental research is its internal validity (causality) due to its ability to link cause and effect through treatment manipulation while controlling for the spurious effect of extraneous variables.
- **Option C:** Treatments are the unique feature of experimental research that sets this design apart from all other research methods. Treatment manipulation helps control for the “cause” in cause-effect relationships.
- **Option D:** Experimental research is best suited for explanatory research (rather than for descriptive or exploratory research), where the goal of the study is to examine cause-effect relationships. It also works well for research that involves a relatively limited and well-defined set of independent variables that can either be manipulated or controlled.
- **Option E:** Random assignment is however a process of randomly assigning subjects to experimental or control groups. This is a standard practice in true experimental research to ensure that treatment groups are similar (equivalent) to each other and to the control group, prior to treatment administration.

49. A laboring client complains of low back pain. The nurse replies that this pain occurs most when the position of the fetus is:

- A. Breech
- B. Transverse
- C. Occiput anterior

D. Occiput posterior

Correct Answer: D. Occiput posterior

A persistent occiput posterior position causes intense back pain because of fetal compression of the sacral nerves. Occiput anterior is the most common fetal position and does not cause back pain.

- **Option A:** Breech presentation is defined as a fetus in a longitudinal lie with the buttocks or feet closest to the cervix. This occurs in 3-4% of all deliveries. The percentage of breech deliveries decreases with advancing gestational age from 22-25% of births prior to 28 weeks' gestation to 7-15% of births at 32 weeks' gestation to 3-4% of births at term.
- **Option B:** The transverse lie position is where the baby's head is on one side of the mother's body and the feet on the other, rather than having the head close to the cervix or close to the heart. The baby can also be slightly at an angle, but still more sideways, than up or down.
- **Option C:** The left occiput anterior (LOA) position is the most common in labor. In this position, the baby's head is slightly off-center in the pelvis with the back of the head toward the mother's left thigh.

50. When assessing a client at 12 weeks of gestation, the nurse recommends that she and her husband consider attending childbirth preparation classes. When is the best time for the couple to attend these classes?

- A. At 16 weeks of gestation.
- B. At 20 weeks of gestation.
- C. At 24 weeks of gestation.
- D. At 30 weeks of gestation.

Correct Answer: D. At 30 weeks of gestation.

Learning is facilitated by an interested pupil. The couple is most interested in childbirth toward the end of the pregnancy when they are beginning to anticipate the onset of labor and the birth of their child. At 30 weeks, is closest to the time when parents would be ready for such classes.

- **Option A:** This would not be the best time during pregnancy for the couple to attend childbirth education classes. At these times they will have other teaching needs. Early pregnancy classes often include topics such as nutrition, physiologic changes, coping with normal discomforts of pregnancy, fetal development, maternal and fetal risk factors, and evolving roles of the mother and her significant others.
- **Option B:** At 20 weeks gestation, the couple may have an ultrasound to check the fetus' gender. This is also the time when the scan may show the beating of the fetus' heart, the curve of his spine, or his arms and legs kicking.
- **Option C:** During the 24th week of gestation, the couple may think about where they should have the baby; learn about the signs of preterm labor; and how they could introduce the new baby to his siblings.

51. Nurse Amanda is caring for a client with severe blood loss who is prescribed multiple transfusions of blood. Nurse Amanda obtains which most essential piece of equipment to prevent the risk of cardiac dysrhythmias?

- A. Cardiac monitor
- B. Blood warmer
- C. ECG machine
- D. Infusion pump

Correct Answer: B. Blood warmer

Rapid transfusion of cool blood puts the client at risk for cardiac dysrhythmias. Modern methods of very rapid transfusion in resuscitation would cause clinically dangerous hypothermia if unmodified, ice-cold blood were to be so transfused. These needs must be reconciled in the interest of adequate patient care—hence the need for blood warming. Countercurrent in-line blood warmers and the method of rapid warm saline admixture can both be used successfully for rapid, massive transfusions.

- **Option A:** Cardiac monitor is used to assess for any blood transfusion-related complication, but they do not prevent the occurrence of cardiac dysrhythmia. During the blood transfusion process, patients' vital signs (heart rate, blood pressure, temperature, and respiration rate) should be monitored throughout the procedure and recorded. Follow the organization's policy on how often the vital signs should be measured.
- **Option C:** ECG machine is used to assess for any blood transfusion-related complication, but they do not prevent the occurrence of cardiac dysrhythmia. Many severe reactions occur within the first 30 minutes of commencing a transfusion of a blood component unit (SHOT 2008). Close observation during this period is essential.
- **Option D:** Infusion pump is not beneficial in this case since the infusion must be given rapidly. SHOT 2008 recommends that patients be observed during the subsequent 24 hours because, on occasion, transfusion reactions can occur many hours after transfusion is completed.

52. Biperiden hydrochloride (Akineton) is added to a list of antiparkinsonian medications that an elderly client is taking. Which of the following instructions made by the nurse that needs further learning?

- A. Avoiding alcohol and caffeine.
- B. Using ice chips, candy or gum for dry mouth.
- C. Walking in the morning to have a daily source of direct sunlight.
- D. Eating foods rich in fiber and increase fluid intake.

Correct Answer: C. Walking in the morning to have a daily source of sunlight.

Biperiden hydrochloride (Akineton) is an anticholinergic antiparkinson agent used to treat the stiffness, tremors, spasms, and poor muscle control of Parkinson's disease. Photophobia is one of the side effects of this medication so instruct the client to use sunglasses in direct sunlight.

- **Options A, B, & D:** These are correct instructions regarding the use of this medication.

53. An adolescent with a depressive disorder is more likely than an adult with the same disorder to exhibit:

- A. Negativism and acting out.
- B. Sadness and crying.

- C. Suicidal thoughts.
- D. Weight gain.

Correct Answer: A. Negativism and acting out.

Adolescents sometimes demonstrate behavior that is uncharacteristic of an adult with a psychiatric disorder. In a depressive disorder, an adolescent's negativism and acting out could be signs of depression. Depressed adolescents have an attentional bias and a memory bias. They recall more negative and fewer positive words than a non-depressed adolescent.

- **Option B:** Depressed or irritable mood most of the day, almost every day, as demonstrated by either subjective report, for example, the patient feels sad, empty, or hopeless, or observation made by others, for example, the patient appears sad.
- **Option C:** Suicidal thoughts are behaviors of both adolescents and adults. Repeated thoughts of death (not just fear of dying), recurrent suicidal ideation without specific plans; suicide attempt; or a definite plan to commit suicide is also present.
- **Option D:** An adult may experience either weight loss or weight gain while depressed, whereas an adolescent may experience weight loss. Failure to make expected weight gain or remarkable weight loss when not dieting or a remarkable weight gain, or decrease or increase in daily appetite is present among depressed adolescents.

54. Rocky has started taking haloperidol (Haldol). Which of the following instructions is most appropriate for Ricky before taking haloperidol?

- A. Should report feelings of restlessness or agitation at once.
- B. Use sunscreen outdoors on a year-round basis.
- C. Be aware you'll feel increased energy taking this drug.
- D. Avoid eating sugar-free sweets.

Correct Answer: A. Should report feelings of restlessness or agitation at once

Haloperidol is a first-generation (typical) antipsychotic medication that is used widely around the world. Food and Drug Administration (FDA) approved the use of haloperidol is for schizophrenia, Tourette syndrome (control of tics and vocal utterances in adults and children), hyperactivity (which may present as impulsivity, difficulty maintaining attention, severe aggressivity, mood instability, and frustration intolerance), severe childhood behavioral problems (such as combative, explosive hyperexcitability), intractable hiccups. It is a typical antipsychotic because it works on positive symptoms of schizophrenia, such as hallucinations and delusions.

- **Option A:** Agitation and restlessness are adverse effects of haloperidol and can be treated with anticholinergic drugs. Due to the blockade of the dopamine pathway in the brain, typical antipsychotic medications such as haloperidol have correlations with extrapyramidal side effects.
- **Option B:** Haloperidol isn't likely to cause photosensitivity or control essential hypertension. Due to potential side effects development, patients receiving haloperidol require monitoring, especially when receiving the intramuscular form. It can be easily monitored by taking blood levels. It has a therapeutic range of 2 to 15 ng/ml in serum. Blood levels should be monitored at 12-hour or 24-hour intervals or after the last dose of haloperidol use in a patient.
- **Option C:** Although the client may experience increased concentration and activity, these effects are due to a decrease in symptoms, not the drug itself. Haloperidol is a first-generation (typical antipsychotic) which exerts its antipsychotic action by blocking dopamine D2 receptors in the brain.

When 72% of dopamine receptors are blocked, this drug achieves its maximal effect. Haloperidol is not selective for the D2 receptor. It also has noradrenergic, cholinergic, and histaminergic blocking action. The blocking of these receptors is associated with various side effects.

Option D: Haloperidol may produce anticholinergic side effects such as dry mouth, hence the health care provider will teach the client interventions to relieve symptoms such as chewing a sugarless hard candy or gum.

55. A clinic nurse instructs the mother of a child with sickle cell disease about the precipitating factors related to pain crisis. Which of the following, if identified by the mother as a precipitating factor, indicates the need for further instructions?

- A. Infection
- B. Trauma
- C. Fluid overload
- D. Stress

Correct Answer: C. Fluid overload

Pain crises may be precipitated by infection, dehydration, hypoxia, trauma, or physical or emotional stress. The mother of a child with sickle cell disease should encourage fluid intake of 1 ½ to 2 times the daily requirement to prevent dehydration.

- **Option A:** People with sickle cell disease have an increased risk of developing certain infections. They include pneumonia, bloodstream infections, meningitis, and bone infections. In people with sickle cell disease, the spleen does not work correctly. The spleen is an organ in the abdomen that helps protect against infection.
- **Option B:** Sickle cell trait, though considered as a benign condition may lead to sight-threatening complications in the presence of precipitating factors. Impact of blunt trauma may lead to localized hypoxia, promoting sickling of erythrocytes leading to vaso-occlusion and resultant stagnation of blood.
- **Option D:** Mental stress and the anticipation of pain decreases microvascular blood flow, which may trigger episodes of vaso-occlusive crisis among patients with sickle cell disease, according to study results presented at the American Physiological Society's Physiological and Pathophysiological Consequences of Sickle Cell Disease conference.

56. Nurse Maureen is aware that a client who has been diagnosed with chronic renal failure recognizes an adequate amount of high-biological-value protein when the food the client selected from the menu was:

- A. Raw carrots
- B. Apple juice
- C. Whole wheat bread
- D. Cottage cheese

Correct Answer: D. Cottage cheese

One cup of cottage cheese contains approximately 225 calories, 27 g of protein, 9 g of fat, 30 mg cholesterol, and 6 g of carbohydrate. Proteins of high biological value (HBV) contain optimal levels of amino acids essential for life. In general, proteins from animal sources have a higher biological value than proteins from plant sources. Animal sources of protein are meat, poultry, fish, eggs, milk, cheese and yogurt, and they provide high biological value proteins.

- **Option A:** Raw carrots are rich in beta-carotene and sodium. Plants, legumes, grains, nuts, seeds and vegetables provide low biological value proteins.
- **Option B:** Apple juice is rich in carbohydrates and fiber. Omnivorous diets (containing foods derived from animals and plants) in the developed world provide adequate amounts of protein. However, subgroups of the population who avoid all foods of animal origin may have difficulties in meeting their protein requirements.
- **Option C:** Whole wheat bread contains high amounts of fiber and carbohydrates. However, as the limiting amino acid tends to be different in different vegetable proteins, combination of vegetable sources of proteins in the same meal (e.g. legumes or pulses with cereals), can result in a mix of higher biological value. These combinations are generally found in traditional culinary recipes from the different continents (e.g. beans with rice/pasta/manioc, chick-peas with bread, lentils with potatoes, etc).

57. The nurse is monitoring the progress of a client in labor. Which finding should be reported to the physician immediately?

- A. The presence of scant bloody discharge
- B. Frequent urination
- C. The presence of green-tinged amniotic fluid
- D. Moderate uterine contractions

Correct Answer: C. The presence of green-tinged amniotic fluid

Green-tinged amniotic fluid is indicative of meconium staining. This finding indicates fetal distress. Amniotic fluid should be clear, or straw tinged with small vernix particles in the fluid. Brown or green staining of the fluid indicates the passage of meconium. Because the fetus swallows amniotic fluid in utero, meconium can be present in the infant's oropharynx at delivery. During delivery, if meconium-stained amniotic fluid is noted, a neonatal resuscitation team should be promptly involved

- **Option A:** In the third trimester, bleeding is concerning for placental abruption, placenta previa, or labor. Each of these pathologies has its entry discussing its presentation and pathophysiology. Although bleeding in pregnancy is not considered "normal," it is common, affecting about one in three pregnancies.
- **Option B:** An increased urge to urinate can be a result of the baby's head dropping into the pelvis. The low position of the baby's head puts even more pressure on the urinary bladder, so many women approaching labor might feel a frequent need to urinate.
- **Option D:** Although precisely determining when labor starts may be inexact, labor is generally defined as beginning when contractions become strong and regularly spaced at approximately 3 to 5 minutes apart. Throughout pregnancy, women may experience painful contractions that do not lead to cervical dilation or effacement, referred to as false labor.

58. Surgical management of ulcerative colitis may be performed to treat which of the following complications?

- A. Gastritis
- B. Bowel herniation
- C. Bowel outpouching
- D. Bowel perforation

Correct Answer: D. Bowel perforation

Perforation, obstruction, hemorrhage, and toxic megacolon are common complications of ulcerative colitis that may require surgery. Perforation can also present in severe ulcerative colitis even in the absence of toxic megacolon. Most perforations occur in the left colon, commonly in the sigmoid colon. Perforations tend to occur more often during the first episodes of colitis.

- **Option A:** Gastritis isn't associated with irritable bowel diseases. The current classification of gastritis is based on time course (acute versus chronic), histological features, anatomic distribution, and underlying pathological mechanisms. Acute gastritis will evolve to chronic, if not treated. *Helicobacter pylori* (*H. pylori*) is the most common cause of gastritis worldwide.
- **Option B:** Inguinal hernias are considered to have both a congenital and acquired component. Most adult hernias are considered acquired. However, there is evidence to suggest genetics also play a role. Patients with a known family history of a hernia are at least 4 times more likely to have an inguinal hernia than patients with no known family history.
- **Option C:** Outpouching of the bowel is diverticulosis. 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).

59. Which of the following interventions should be included in the medical management of Crohn's disease?

- A. Increasing oral intake of fiber.
- B. Administering laxatives.
- C. Using long-term steroid therapy.
- D. Increasing physical activity.

Correct Answer: C. Using long-term steroid therapy

Management of Crohn's disease may include long-term steroid therapy to reduce the inflammation associated with the deeper layers of the bowel wall. Most people with Crohn's disease need to take steroids (such as prednisolone) from time to time. Steroids can relieve symptoms by reducing inflammation in the digestive system – they usually start to work in a few days or weeks. are usually taken as tablets once a day – sometimes they're given as injections.

- **Option A:** Other management focuses on bowel rest (not increasing oral intake). Provide colon rest by omitting or decreasing the stimulus of foods and fluids. Gradual resumption of liquids may prevent cramping and recurrence of diarrhea; however, cold fluids can increase intestinal motility.
- **Option B:** Reducing diarrhea with medications, not giving laxatives, is the management of Crohn's disease. Observe and record stool frequency, characteristics, amount, and precipitating factors. Helps differentiate the individual disease and assess the severity of an episode.

- **Option D:** The pain associated with Crohn's disease may require bed rest, not an increase in physical activity. Promote bedrest, provide a bedside commode. Rest decreases intestinal motility and reduces the metabolic rate when infection or hemorrhage is a complication. Urge to defecate may occur without warning and be uncontrollable, increasing the risk of incontinence or falls if facilities are not close at hand.

60. The nurse is monitoring a client following a lung resection. The hourly output from the chest tube was 300mL. The nurse should give priority to:

- A. Turning the client to the left side
- B. Milking the tube to ensure patency
- C. Slowing the intravenous infusion
- D. Notifying the physician

Correct Answer: D. Notifying the physician

The output of 300 mL is indicative of hemorrhage and should be reported immediately.

- **Option A:** Turning the client to the left side does nothing to help the client.
- **Options B and C:** Milking the tube is done only with an order and will not help in this situation, and slowing the intravenous infusion is not an appropriate action.

61. A nurse who explains that a client's psychotic behavior is unconsciously motivated understands that the client's disordered behavior arises from which of the following?

- A. Abnormal thinking
- B. Altered neurotransmitters
- C. Internal needs
- D. Response to stimuli

Correct Answer: C. Internal needs

The concept that behavior is motivated and has meaning comes from the psychodynamic framework. According to this perspective, behavior arises from internal wishes or needs. Much of what motivates behavior comes from the unconscious. The psychodynamic approach includes all the theories in psychology that see human functioning based upon the interaction of drives and forces within the person, particularly unconscious, and between the different structures of the personality.

- **Option A:** According to Freud (1915), the unconscious mind is the primary source of human behavior. Like an iceberg, the most important part of the mind is the part you cannot see. Our feelings, motives, and decisions are actually powerfully influenced by our past experiences and stored in the unconscious.
- **Option B:** Psychodynamic theory states that events in our childhood have a great influence on our adult lives, shaping our personality. Events that occur in childhood can remain in the unconscious, and cause problems as adults. Personality is shaped as the drives are modified by different conflicts at different times in childhood (during psychosexual development).

- **Option D:** The remaining responses do not address the internal forces thought to motivate behavior. Psychodynamic theory is strongly determinist as it views our behavior as caused entirely by unconscious factors over which we have no control. Unconscious thoughts and feelings can transfer to the conscious mind in the form of parapraxes, popularly known as Freudian slips or slips of the tongue. We reveal what is really on our minds by saying something we didn't mean to.

62. For questions #50-55: Situation: Ryan, a 14-year-old male was admitted to a medical ward due to bronchial asthma after learning that his mother was leaving soon for U.K. to work as a nurse. The client has which of the following developmental focus:

- A. Establishing a relationship with the opposite sex and career planning.
- B. Parental and societal responsibilities.
- C. Establishing one's sense of competence in school.
- D. Developing initial commitments and collaboration in work.

Correct Answer: A. Establishing relationship with the opposite sex and career planning.

The client belongs to the adolescent stage. The adolescent establishes his sense of identity by making decisions regarding familial, occupational, and social roles. The adolescent emancipates himself from the family and decides what career to pursue, what set of friends to have, and what value system to uphold. Our personal identity gives each of us an integrated and cohesive sense of self that endures through our lives. Our sense of personal identity is shaped by our experiences and interactions with others, and it is this identity that helps guide our actions, beliefs, and behaviors as we age.

- **Option B:** This refers to the middle adulthood stage concerned with transmitting his values to the next generation to ensure his immortality through the perpetuation of his culture. Adults need to create or nurture things that will outlast them, often by having children or creating a positive change that benefits other people. Success leads to feelings of usefulness and accomplishment, while failure results in shallow involvement in the world.
- **Option C:** This reflects school age which is concerned with the pursuit of knowledge and skills to deal with the environment both in the present and in the future. Successfully finding a balance at this stage of psychosocial development leads to the strength known as competence, in which children develop a belief in their abilities to handle the tasks set before them.
- **Option D:** The stage of young adulthood is concerned with the development of an intimate relationship with the opposite sex, the establishment of a safe and congenial family environment and building of one's lifework. Young adults need to form intimate, loving relationships with other people. Success leads to strong relationships, while failure results in loneliness and isolation. This stage covers the period of early adulthood when people are exploring personal relationships.

63. Cancer can cause changes in what component of Virchow's triad?

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

Correct Answer: A. Blood coagulability

Charles Emile Troisier later recognized the further association of other abdominal cancers as well as testicular cancer with the presence of Virchow's node. Virchow sought to explain the causation of pulmonary thromboembolism and theorized that pulmonary arterial embolus arises from peripheral/distant thrombosis.

- **Option B:** Damage to the endothelial wall of a vessel alters the dynamics of blood flow. Endothelial disturbance can result from insults such as smoking, chronically elevated blood pressure, and atherosclerotic disease secondary to hyperlipidemia. When an insult to the wall occurs, flow disruption or "turbulence" occurs.
- **Option C:** The thinking is that as blood flow slows through vascular beds, flow reduces, and the natural anticoagulant properties from interaction with surface proteins are affected, resulting in thrombi production.
- **Option D:** Hypercoagulability can occur due to a variety of clinical statuses such as pregnancy, use of oral contraceptive medications, cancer, chemotherapy drugs, and inherited thrombophilias.

64. David is diagnosed with panic disorder with agoraphobia and is talking with the nurse in-charge about the progress made in treatment. Which of the following statements indicates a positive client response?

- A. "I went to the mall with my friends last Saturday"
- B. "I'm hyperventilating only when I have a panic attack"
- C. "Today I decided that I can stop taking my medication"
- D. "Last night I decided to eat more than a bowl of cereal"

Correct Answer: A. "I went to the mall with my friends last Saturday"

Clients with panic disorder tend to be socially withdrawn. Going to the mall is a sign of working on avoidance behaviors. Panic disorder and panic attacks are two of the most common problems seen in the world of psychiatry. Panic disorder is a separate entity than a panic disorder although it is characterized by recurrent, unexpected panic attacks. Panic attacks are defined by the Diagnostic and Statistical Manual of Mental Health Disorders (DSM) as "an abrupt surge of intense fear or discomfort" reaching a peak within minutes.

- **Option B:** Hyperventilating is a key symptom of panic disorder. Teaching breathing control is a major intervention for clients with panic disorder. Breathing training is a method of reducing panic symptomatology by utilizing capnometry biofeedback to decrease the number of episodes of hyperventilation. Several of these slow breathing techniques have been shown to benefit patients with asthma and hypertension. Hyperventilation reduction can help patients with cardiovascular disease.
- **Option C:** The client taking medications for panic disorder; such as tricyclic antidepressants and benzodiazepines, must be weaned off these drugs. Antidepressants and benzodiazepines are the mainstays of pharmacologic treatment. Among the different classes of antidepressants, selective serotonin reuptake inhibitors (SSRIs) are recommended over monoamine oxidase inhibitors and tricyclic antidepressants.
- **Option D:** Most clients with panic disorder with agoraphobia don't have nutritional problems. It is important for a provider to inform the patient about the symptoms that he may suffer from if he is diagnosed with the disorder. If a patient is not aware of these symptoms it is probable that he would fear his condition more and would tend to get frequent attacks. Pharmacotherapy and

cognitive-behavioral therapy should be discussed with the patients so that they can understand the treatment options for the condition that they have.

65. The charge nurse on the cardiac unit is planning assignments for the day. Which of the following is the most appropriate assignment for the float nurse that has been reassigned from labor and delivery?

- A. A one-week postoperative coronary bypass patient, who is being evaluated for placement of a pacemaker prior to discharge.
- B. A suspected myocardial infarction patient on telemetry, just admitted from the Emergency Department and scheduled for an angiogram.
- C. A patient with unstable angina being closely monitored for pain and medication titration.
- D. A postoperative valve replacement patient who was recently admitted to the unit because all surgical beds were filled.

Correct Answer: A. A one-week postoperative coronary bypass patient, who is being evaluated for placement of a pacemaker prior to discharge.

The charge nurse planning assignments must consider the skills of the staff and the needs of the patients. The labor and delivery nurse who is not experienced with the needs of cardiac patients should be assigned to those with the least acute needs. The patient who is one-week post-operative and nearing discharge is likely to require routine care.

- **Option B:** A new patient admitted with suspected MI and scheduled for angiography would require continuous assessment as well as coordination of care that is best carried out by experienced staff. Nurse-patient assignments are typically allocated based on estimated direct patient care requirements with little consideration for other activities that must be completed throughout a shift. In an effort to improve upon previous assignment methodologies, new measures and metrics were considered in this study to reduce and balance demands placed on nurses through the assignment of required activities.
- **Option C:** The unstable patient requires staff that can immediately identify symptoms and respond appropriately. In most hospitals, a unit charge nurse is responsible for the shift assignment of patients to nurses based on experience and past practices. The nurse-patient assignment process is also often a manual process in which the charge nurse must sort through multiple decision criteria in a limited amount of time.
- **Option D:** A postoperative patient also requires close monitoring and cardiac experience. Balancing workload among nurses on a hospital unit is important for the satisfaction and safety of nurses and patients. To balance nurse workloads, direct patient care activities, indirect patient care activities, and non-patient care activities that occur throughout a shift must be considered.

66. A 50-year-old widower has arthritis and remains in bed too long because it hurts to get started. Which intervention should the nurse plan?

- A. Telling the client to strictly limit the amount of movement of his inflamed joints.
- B. Teaching the client's family how to transfer the client into a wheelchair.
- C. Teaching the client the proper method for massaging inflamed, sore joints.
- D. Encouraging gentle range-of-motion exercises after administering aspirin and before rising.

Correct Answer: D. Encouraging gentle range-of-motion exercises after administering aspirin and before rising.

Aspirin raises the pain threshold and, although range-of-motion exercises hurt, mild exercise can relieve pain on rising. A tailored program that includes a balance of three types of exercises — range-of-motion, strengthening, and endurance — can relieve the symptoms of arthritis and protect joints from further damage.

- **Option A:** Strict limitation of motion only increases the client's pain. The stiffness, pain, and swelling associated with arthritis can severely reduce the range of motion of joints (the distance joints can move in certain directions). Avoiding physical activity because of pain or discomfort also can lead to significant muscle loss and excessive weight gain.
- **Option B:** Having others transfer the client into a wheelchair does not increase his feelings of dependency. Range-of-motion exercises (also called stretching or flexibility exercises) help maintain normal joint function by increasing and preserving joint mobility and flexibility.
- **Option C:** Massage increases inflammation and should be avoided with this client. During the course of a range-of-motion exercise program, the joints are stretched progressively farther until the normal or near-normal range is achieved and maintained.

67. A client is suspected of having hepatitis. Which diagnostic test result will assist in confirming this diagnosis?

- A. Elevated hemoglobin level
- B. Elevated serum bilirubin level
- C. Elevated blood urea nitrogen level
- D. Decreased erythrocyte sedimentation rate

Correct Answer: B. Elevated serum bilirubin level.

Laboratory indicators of hepatitis include elevated liver enzyme levels, elevated serum bilirubin levels, elevated erythrocyte sedimentation rates, and leukopenia. Baseline evaluation in a patient suspected to have viral hepatitis can be started by checking a hepatic function panel. Patients who have a severe disease can have elevated total bilirubin levels. Typically, levels of alkaline phosphatase (ALP) remain in the reference range, but if it is elevated significantly, the clinician should consider biliary obstruction or liver abscess.

- **Option A:** A hemoglobin level is unrelated to this diagnosis. In advanced liver disease, prothrombin time (PT) and international normalized ratio (INR) may appear prolonged. Patients may also have leukopenia and thrombocytopenia. Patients who suffer from easy bruising, variceal bleed, or hemorrhoidal bleed due to advanced liver disease may have anemia with low hemoglobin and hematocrit levels.
- **Option C:** An elevated blood urea nitrogen level may indicate renal dysfunction. Blood urea nitrogen (BUN) and serum creatinine levels are also necessary for patients suspected to have advanced liver disease to look for renal impairment. Patients who present with altered mental status should have serum ammonia levels checked and are usually elevated in the presence of hepatic encephalopathy.
- **Option D:** Elevated erythrocyte sedimentation rate is a laboratory indicator of hepatitis. The increase in the ESR in type A hepatitis could be explained by changes in the serum protein levels in the course of acute viral hepatitis and/or by the different inflammatory activity of the underlying disease.

68. A client with preeclampsia has been receiving an infusion containing magnesium sulfate for a blood pressure that is 160/80; deep tendon reflexes are 1 plus, and the urinary output for the past hour is 100mL. The nurse should:

- A. Continue the infusion of magnesium sulfate while monitoring the client's blood pressure
- B. Stop the infusion of magnesium sulfate and contact the physician
- C. Slow the infusion rate and turn the client on her left side
- D. Administer calcium gluconate IV push and continue to monitor the blood pressure

Correct Answer: A. Continue the infusion of magnesium sulfate while monitoring the client's blood pressure

The client's blood pressure and urinary output are within normal limits. The only alteration from normal is the decreased deep tendon reflexes. The nurse should continue to monitor the blood pressure and check the magnesium level. The therapeutic level is 4.8–9.6mg/dL. Magnesium levels must be monitored frequently by checking serum levels every 6 to 8 hours or clinically by following patellar reflexes or urinary output.

- **Option B:** Do not stop the infusion. If serum concentration levels are low, a proper dose of magnesium sulfate can be given parenterally to replete low serum concentrations with recommended follow up laboratory testing.
- **Option C:** There is no need to stop the infusion at this time or slow the rate. If patients exhibit signs and symptoms of hypermagnesemia, the recommendation is to discontinue magnesium sulfate products immediately. If the patient consumed magnesium sulfate orally, then the use of magnesium-free enemas or cathartics can be useful in removing excess magnesium from the GI tract.
- **Option D:** Calcium gluconate is the antidote for magnesium sulfate, but there is no data to indicate toxicity. Patients should receive parenteral doses of calcium gluconate to help alleviate symptoms, but continued doses may be necessary as the calcium provides temporary improvement. IV hydration should also occur if clinically appropriate.

69. During recovery from a cerebrovascular accident (CVA), a female client is given nothing by mouth, to help prevent aspiration. To determine when the client is ready for a liquid diet, the nurse assesses the client's swallowing ability once each shift. This assessment evaluates:

- A. Cranial nerves I and II.
- B. Cranial nerves III and V.
- C. Cranial nerves VI and VIII.
- D. Cranial nerves IX and X.

Correct Answer: D. Cranial nerves IX and X.

Swallowing is a motor function of cranial nerves IX and X. Cranial nerve IX (glossopharyngeal nerve), is responsible for motor (SVE) innervation of the stylopharyngeus and the pharyngeal constrictor muscles by the nucleus ambiguus. Damage to the recurrent laryngeal branch of the vagus nerve can result in vocal hoarseness or acute dyspnea with bilateral avulsion.

- **Option A:** Cranial nerves I, II, and VIII don't possess motor functions. Cranial nerve I, the olfactory nerve, is composed of special visceral afferents (SVA). Chemo-sensory receptors in the olfactory mucosal lining bind to odorant molecules and conduct a signal through the nerves traveling through the cribriform plate of the ethmoid bone to synapse on the neurons of the olfactory bulb within the cranial vault. Cranial nerve II, the optic nerve, conveys special somatic afferent (SSA) visual sensory information from the rods and cones retinal sensory receptors to the thalamus, especially the lateral geniculate nucleus (LGN), and the superior colliculus (SC). Cranial nerve III innervates most of the eye muscles, by splitting into a superior and an inferior branch to innervate the remaining three recti muscles, the inferior oblique, and the skeletal muscle component of levator palpebrae superiors.
- **Option B:** The motor functions of cranial nerve III include extraocular eye movement, eyelid elevation, and pupil constriction. Cranial nerve III innervates most of the eye muscles, by splitting into a superior and an inferior branch to innervate the remaining three recti muscles, the inferior oblique, and the skeletal muscle component of levator palpebrae superioris. While no autonomic fibers travel with the fifth cranial nerve as it exits the pons, parasympathetic fibers from the other mixed cranial nerves will join with peripheral branches of cranial nerve V to innervate their respective target structures, such as the lacrimal, parotid, submandibular, and sublingual glands.
- **Option C:** The motor function of cranial nerve V is chewing. Cranial nerve VI controls lateral eye movement. The abducens nerve innervates the lateral rectus muscles only; thereby this nerve can be tested by evaluating the abduction of the eye gaze. Cranial nerve VIII, the vestibulocochlear nerve, is responsible for the auditory sense and the vestibular sense of orientation of the head.

70. The neonate of a mother with diabetes mellitus is prone to developing hypoglycemia because:

- A. The pancreas is immature and unable to secrete the needed insulin.
- B. There is rapid diminution of glucose level in the baby's circulating blood and his pancreas is normally secreting insulin.
- C. The baby is reacting to the insulin given to the mother.
- D. His kidneys are immature leading to a high tolerance for glucose.

Correct Answer: B. There is rapid diminution of glucose level in the baby's circulating blood and his pancreas is normally secreting insulin.

If the mother is diabetic, the fetus while in utero has a high supply of glucose. When the baby is born and is now separate from the mother, it no longer receives a high dose of glucose from the mother. In the first few hours after delivery, the neonate usually does not feed yet thus this can lead to hypoglycemia.

- **Option A:** The primary function of β -cells is to store and secrete insulin in response to glucose load. When β -cells lose the ability to adequately sense blood glucose concentration, or to release sufficient insulin in response, this is classified as β -cell dysfunction. β -cell dysfunction is thought to be the result of prolonged, excessive insulin production in response to chronic fuel excess
- **Option C:** β -cell dysfunction is exacerbated by insulin resistance. Reduced insulin-stimulated glucose uptake further contributes to hyperglycemia, overburdening the β -cells, which have to produce additional insulin in response. The direct contribution of glucose to β -cell failure is described as glucotoxicity. Thus, once β -cell dysfunction begins, a vicious cycle of hyperglycemia, insulin resistance, and further β -cell dysfunction is set in motion.

- **Option D:** Insulin resistance occurs when cells no longer adequately respond to insulin. At the molecular level, insulin resistance is usually a failure of insulin signaling, resulting in inadequate plasma membrane translocation of glucose transporter 4 (GLUT4)—the primary transporter that is responsible for bringing glucose into the cell to use as energy.

71. A nurse is preparing a plan of care for a client who is a Jehovah's Witness. The client has been told that surgery is necessary. The nurse considers the client's religious preferences in developing the plan of care and documents that:

- A. Giving any medication is not allowed.
- B. Surgery is strictly prohibited.
- C. Blood products can not be administered.
- D. Alternative medicines can be advised.

Correct Answer: C. Blood products can not be administered.

Among Jehovah's Witnesses, the administration of blood and blood products is prohibited. Jehovah's Witnesses believe that it is against God's will to receive blood and, therefore, they refuse blood transfusions, often even if it is their own blood. The willing acceptance of blood transfusions by Jehovah's Witnesses has in some cases led to expulsion from and ostracisation by their religious community.

- **Option A:** Jehovah's Witnesses accept medical and surgical treatment. They do not adhere to so-called "faith healing" and are not opposed to the practice of medicine. They are deeply religious and believe that blood transfusions are forbidden for them by such Biblical passages.
- **Option B:** In the case of elective treatment or surgery, a medical practitioner who believes that a blood transfusion may be necessary may refuse to treat or perform surgery on a Jehovah's Witness patient who has refused to consent to a blood transfusion being administered, provided that the practitioner is not already involved in the ongoing treatment of such patient, in which case a unilateral refusal to continue with the treatment could be viewed as a breach of contract.
- **Option D:** Witnesses do not observe special rituals that are to be performed for the sick or those dying. Every reasonable effort should be made to provide medical assistance, comfort, and spiritual care needed by the patient. Each patient who is a Jehovah's Witness will decide what is appropriate for him or her according to his or her circumstances and the provisions of the law.

72. Referencing the image below, what is the name of the structure marked #1.

- A. Minor calyx
- B. Major calyx
- C. Cortical blood vessels
- D. Interlobal blood vessels
- E. Arcuate blood vessels
- F. Renal vein
- G. Renal nerve

- H. Renal artery
- I. Renal pelvis
- J. Renal pyramid

Correct answer: #1 is Option C. Cortical blood vessels

The cortical blood vessels are the arteries and veins that supply blood to the renal cortex, which is the outer layer of the kidney.

73. Ryan has undergone a subtotal gastrectomy. The nurse should expect that nasogastric tube drainage will be what color for about 12 to 24 hours after surgery?

- A. Bile green
- B. Bright red
- C. Cloudy white
- D. Dark brown

Correct Answer: D. Dark brown

12 to 24 hours after subtotal gastrectomy gastric drainage is normally brown, which indicates digested food. Assess color, amount, and odor of gastric drainage, noting any changes in these parameters or the presence of clots or bright bleeding. Initial drainage is bright red. It becomes dark, then clear or greenish-yellow over the first 2 to 3 days. A change in the color, amount, or odor may indicate a complication such as hemorrhage, intestinal obstruction, or infection.

- **Option A:** Bile green color of gastric drainage is due to the presence of bile and is not expected during the first 12 to 24 hours. Normal color of gastric drainage is light yellow to green in color due to the presence of bile.
- **Option B:** Bloody drainage may be expected in the first 6 to 12 hours after gastric surgery but must be monitored closely. Bright red blood may indicate bleeding from the esophagus, the stomach or swallowed from the lungs
- **Option C:** Cloudy white drainage is not expected during the first 12 to 24 hours. Gastric aspirates were most frequently cloudy and green, tan or off-white, or bloody or brown. Intestinal fluids were primarily clear and yellow to bile-colored. In the absence of blood, pleural fluid was usually pale yellow and serous, and tracheobronchial secretions were usually tan or off-white mucus.

74. A female client is admitted to the hospital with a diagnosis of Guillain-Barre syndrome. The nurse inquires during the nursing admission interview if the client has a history of:

- A. Seizures or trauma to the brain.
- B. Meningitis during the last five (5 years).
- C. Back injury or trauma to the spinal cord.
- D. Respiratory or gastrointestinal infection during the previous month.

Correct Answer: D. Respiratory or gastrointestinal infection during the previous month.

Guillain-Barré syndrome is a clinical syndrome of unknown origin that involves cranial and peripheral nerves. Many clients report a history of respiratory or gastrointestinal infection in the 1 to 4 weeks before the onset of neurological deficits. Occasionally, the syndrome can be triggered by vaccination or surgery.

- **Option A:** Many infections have been linked with GBS. The most common are gastrointestinal or respiratory illnesses. Up to 70% of patients have reported an antecedent illness in the 1 to 6 weeks before the presentation of GBS. During the Zika virus outbreak, many GBS cases were described. Case reports detail many other possible etiologies linked to GBS including medications and surgeries.
- **Option B:** The Guillain-Barre syndrome (GBS) and its variants are considered post-infectious, immune-mediated neuropathies. Evidence from animal models suggests a key role of molecular mimicry. In *Campylobacter jejuni* gastrointestinal infections, a lipooligosaccharide present in the outer membrane of the bacteria is similar to gangliosides that are components of the peripheral nerves. Therefore, an immune response triggered to fight infection can lead to a cross-reaction on host nerves.
- **Option C:** In 1976, flu vaccination against the influenza A/H1N1 antigen led to a well-documented, increased incidence of cases of GBS; however, further surveillance data of flu vaccinations in subsequent years have described only one additional case of GBS for every 1 million vaccines. Subsequent studies estimate that developing GBS after a flu infection is up to 7 times more likely than developing GBS after a vaccination.

75. Twelve hours after the client was initially burned, bowel sounds are absent in all four abdominal quadrants. What is the nurse's best action?

- A. Reposition the client onto the right side.
- B. Document the finding as the only action.
- C. Notify the emergency team.
- D. Increase the IV flow rate.

Correct Answer: B. Document the finding as the only action.

Decreased or absent peristalsis is an expected response during the emergent phase of burn injury as a result of neural and hormonal compensation to the stress of injury. After the mid and late 1990s, the idea of staged food intake was advanced: a small amount of light fluid is started several hours after burn so as to not only supplement nutrition but stimulate GI peristalsis and improve GI blood supply. Once bowel sound resumes, the amount of food can be increased.

- **Option A:** Post-burn GI dysfunction is caused by multiple factors, and therefore maintaining GI function is a systematic engineering project. The therapeutic strategy should not rely on a single treatment or a single drug.
- **Option C:** It is suggested that small doses of dopamine should be administered to dilate the renal and GI vessels, and free oxygen radical clearing agents to attenuate ischemia/reperfusion injury in the process of resuscitation. These comprehensive resuscitation measures played an important role in protecting GI function, helping resume bowel sound earlier and digestive function.
- **Option D:** In some patients in whom fluid resuscitation was not implemented effectively for various reasons, wound surface infection often caused severe injury to the GI function, or even toxic paralytic ileus palsy, greatly increasing toxin absorption and bacterial superinfection.

76. Tom is admitted to the emergency department with an acute spinal cord injury. Methylprednisolone is contraindicated for treatment when the injury:

- A. Is a high cervical lesion.
- B. Occurred less than 4 hours ago.
- C. Occurred less than 8 hours ago.
- D. Occurred more than 8 hours ago.

Correct Answer: D. Occurred more than 8 hours ago.

Research has shown that steroids are ineffective when given more than 8 hours after acute spinal injury. The American Association of Neurological Surgeons (AANS) and the Congress of Neurological Surgeons (CNS) released a consensus statement in 2013 that the use of glucocorticoids in acute traumatic SCI is no longer recommended. This view was balanced by a position statement by the American Academy of Emergency Medicine stating that treatment with glucocorticoids remains an acceptable treatment option though not a standard.

- **Option A:** In terms of the safety of high-dose methylprednisolone, Sauerland et al. performed a systematic review of approximately 2500 patients from 51 trials that involved the use of high-dose methylprednisolone. They found no evidence that methylprednisolone increased the risk of GI bleeding, wound complication, pulmonary complications, or death.
- **Option B:** The pathogenesis of SCI can be divided into two stages. The first stage involves the initial physical trauma with resulting tissue damage. Following this stage, a cascade of destructive biological changes occurs, resulting in secondary injury. Most therapeutic strategies for SCI aim to mitigate these “secondary” events, which include inflammation, lipid peroxidation, and excitotoxicity. The pathogenesis of SCI can be divided into two stages. The first stage involves the initial physical trauma with resulting tissue damage. Following this stage, a cascade of destructive biological changes occurs, resulting in secondary injury. Most therapeutic strategies for SCI aim to mitigate these “secondary” events, which include inflammation, lipid peroxidation, and excitotoxicity.
- **Option C:** Because glucocorticoids suppress many of these secondary events, investigators have explored its utility as SCI therapy. While there are compelling data in experimental models, randomized control trials (RCTs) have generally not demonstrated compelling efficacy.

77. The nurse is assigned to care for a female client with herpes zoster (Shingles). Which of the following characteristics would the nurse expect to note when assessing the lesions of this infection?

- A. Clustered skin vesicles
- B. A generalized body rash
- C. Small blue-white spots with a red base
- D. Cutaneous lesions on the hands, feet, and buttocks

Correct Answer: A. Clustered skin vesicles

The primary lesion of herpes zoster is a vesicle. The classic presentation is grouped vesicles on an erythematous base along a dermatome. Because the lesions follow nerve pathways, they do not cross the midline of the body.

- **Option B:** Generalized rashes are normally the result of skin inflammation that is observed in eczema and atopic dermatitis.
- **Option C:** Small blue-white spot with a red base is a characteristic of a Koplik spot that is seen in measles.
- **Option D:** Cutaneous lesions on the hands, feet, and buttocks are signs of Hand-foot-and-mouth disease (HFMD).

78. An adult is hospitalized for treatment of deep electrical burns. Burn wound sepsis develops and mafenide acetate 10% (Sulfamylon) is ordered BID. While applying the Sulfamylon to the wound, it is important for the nurse to prepare the client for expected responses to the topical application, which include:

- A. Severe burning pain for a few minutes following application.
- B. Possible severe metabolic alkalosis with continued use.
- C. Black discoloration of everything that comes in contact with this drug.
- D. Chilling due to evaporation of solution from the moistened dressings.

Correct Answer: A. Severe burning pain for a few minutes following application.

Mafenide acetate 10% (Sulfamylon) does cause burning on application. An analgesic may be required before the ointment is applied. Sulfamylon (mafenide acetate) is a topical (for the skin) antibiotic used to prevent infection in severe burn wounds. Common side effects of Sulfamylon include skin rash, redness, or itching, or pain, burning, or redness of the treated skin areas.

- **Option B:** Mafenide acetate 10% (Sulfamylon) is a strong carbonic anhydrase inhibitor that affects the renal tubular buffering system, resulting in metabolic acidosis.
- **Option C:** Mafenide acetate 10% (Sulfamylon) does not cause discoloration. Silver nitrate solution, another topical antibiotic used to treat burn sepsis, has the disadvantage of turning everything it touches black.
- **Option D:** Mafenide acetate 10% (Sulfamylon) is an ointment that is applied directly to the wound. It has the ability to diffuse rapidly through the eschar. The wound may be left open or dry dressing may be applied. Silver nitrate solution is applied by soaking the wound dressings and keeping them constantly wet, which may cause chilling and hypotension.

79. Immediately after delivery, the nurse-midwife assesses the neonate's head for signs of molding. Which factors determine the type of molding?

- A. Fetal body flexion or extension
- B. Maternal age, body frame, and weight
- C. Maternal and paternal ethnic backgrounds
- D. Maternal parity and gravidity

Correct Answer: A. Fetal body flexion or extension

Fetal attitude—the overall degree of body flexion or extension—determines the type of molding in the head of a neonate.

- **Option B:** When a baby is born in a cephalic position, pressure on the head in the birth canal may mold the head into an oblong shape. The mother's age, body frame, and weight do not affect the pressure.
- **Option C:** There is research that indicates that infant head molding, the application of pressure or bindings to cranial bones to alter their shapes, is prevalent among various Caribbean, Latino, European, African American, Asian, and Native American groups.
- **Option D:** Infants born by primiparous women showed significantly higher degrees of molding of the head than those born by multiparous women.

80. During a hematology clinical rotation, a nursing student is assigned to care for a patient diagnosed with Chronic Lymphocytic Leukemia (CLL). The complexity of the case leads to a detailed exploration of the lymphocytic lineage, particularly B cells, which are implicated in this disease. The medical team discusses the pathological proliferation of B cells and the ensuing immunodeficiency that characterizes CLL. The nursing instructor later expounds on the origin, maturation, and function of B cells within the immune system during a supplementary immunology session. Given the clinical scenario and the theoretical elucidation, which of the following statements is TRUE about B cells?

- A. are lymphocytes
- B. become mature in the thymus
- C. are responsible for cell-mediated immunity
- D. are produced in the adult spleen

Correct Answer: A. are lymphocytes

B cells are indeed a type of white blood cell known as lymphocytes. They play a central role in the humoral immunity component of the adaptive immune system by producing antibodies.

- **Option B:** B cells mature in the bone marrow, whereas T cells mature in the thymus. This distinct maturation process is crucial for the functional divergence between B and T cells within the immune response.
- **Option C:** B cells are primarily involved in humoral immunity, which is antibody-driven. On the other hand, T cells are central to cell-mediated immunity, which is focused on the direct destruction of infected or malignant cells.
- **Option D:** B cells originate and mature in the bone marrow. The spleen acts as a secondary lymphoid organ where B cells can encounter antigens and become activated, but it is not the primary site of B cell production or maturation.

81. Which of the following would Nurse Tony suppose to regard as a cardinal manifestation or symptom of digoxin toxicity to his patient Clay diagnosed with heart failure?

- A. Headache
- B. Respiratory distress

- C. Extreme bradycardia
- D. Constipation

Correct Answer: C. Extreme bradycardia

Extreme bradycardia is a cardinal sign of digoxin toxicity. Increased intracellular calcium from the poisoning of the Na-K transporter and AV nodal blockade from increased vagal tone are the primary causes of digoxin toxicity. The former leads to increased automaticity and inotropy; the latter leads to decreased dromotropy.

- **Option A:** Elderly patients frequently will present with vague symptoms, such as dizziness and fatigue. The most important historical detail in evaluating a random digoxin level is the time of the last dose.
- **Option B:** Patients also may report visual symptoms, which classically present as a yellow-green discoloration, and cardiovascular symptoms, such as palpitations, dyspnea, and syncope. Digoxin may improve the quality of life in CHF patients, but it does not confer a mortality benefit, and its narrow therapeutic index limits its utility.
- **Option D:** Gastrointestinal upset is the most common symptom of digoxin toxicity. Derived from the foxglove plant (*Digitalis* spp.), digoxin is a cardiac glycoside that historically was used for “dropsy” (edema) and is currently used as an inotrope to improve systolic dysfunction in patients with congestive heart failure (CHF) and as an atrioventricular nodal blocking agent for managing atrial tachydysrhythmias.

82. The nurse assesses a male client’s respiratory status. Which observation indicates that the client is experiencing difficulty breathing?

- A. Diaphragmatic breathing
- B. Use of accessory muscles
- C. Pursed-lip breathing
- D. Controlled breathing

Correct Answer: B. Use of accessory muscles

The use of accessory muscles for respiration indicates the client is having difficulty breathing. Accessory muscles of respiration are muscles other than the diaphragm and intercostal muscles that may be used for labored breathing. The sternocleidomastoid, spinal, and neck muscles may be used as accessory muscles of respiration; their use is a sign of an abnormal or labored breathing pattern. Diaphragmatic and pursed-lip breathing are two controlled breathing techniques that help the client conserve energy.

- **Option A:** Diaphragmatic breathing is a type of breathing exercise that helps strengthen the diaphragm, an important muscle that helps breathe as it represents 80% of breathing. This breathing exercise is also sometimes called (belly breathing or abdominal breathing).
- **Option C:** Pursed lip breathing is a technique that helps people living with asthma or COPD when they experience shortness of breath. Pursed lip breathing helps control shortness of breath, and provides a quick and easy way to slow the pace of breathing, making each breath more effective.
- **Option D:** Controlled breathing’ (sometimes called ‘pursed lips breathing’) will help the client to get as much air as possible into the lungs. This may help to ease shortness of breath. It is one way to slow down breathing and to make each breath as effective as possible.

83. 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.

84. Blurred vision or halos are signs of:

- A. Subtherapeutic digoxin levels.
- B. Digoxin toxicity.
- C. Nothing related to digoxin.
- D. Corneal side effects of digoxin.

Correct Answer: B. Digoxin toxicity.

Halos is a hallmark sign of digoxin toxicity. Digoxin exhibits its therapeutic and toxic effects by poisoning the sodium-potassium ATPase. The subsequent increase in intracellular sodium leads to increased intracellular calcium by decreasing calcium expulsion through the sodium-calcium, cation exchanger. A, C and D are incorrect because subtherapeutic digoxin levels have no such effects.

- **Option A:** Digoxin's therapeutic half-life is between 30 to 40 hours, but this may change in overdose. Digoxin excretion is primarily renal, and for this reason, patients with poor or worsening renal function, such as patients who are elderly or have CKD, are more likely to develop toxicity.
- **Option C:** Digoxin levels start to plateau at 6 hours, which is after tissue redistribution has occurred; earlier levels may thus be misleadingly high. Cardiovascular toxicity may have delayed manifestation of up to 8 to 12 hours post-ingestion.
- **Option D:** Visual side effects might include color changes, also known as xanthopsia. But yellow or green-tinted vision is usually associated with digoxin toxicity. Patients may also highlight blurry vision or photopsia.

85. Which of the following is the most common symptom of myocardial infarction?

- A. Chest pain
- B. Dyspnea
- C. Edema
- D. Palpitations

Correct Answer: A. Chest pain

The most common symptom of an MI is chest pain, resulting from the deprivation of oxygen to the heart. The classic manifestation of ischemia is usually described as heavy chest pressure or squeezing, a "burning" feeling, or difficulty in breathing. The discomfort or pain often radiates to the left shoulder, neck, or arm. Chest pain may be atypical in a few cases. It builds in intensity over a period of a few minutes.

- **Option B:** Dyspnea is the second most common symptom, related to an increase in the metabolic needs of the body during an MI. Despite variable prevalence estimates, dyspnea has been consistently associated with greater mortality in the general population. It is a more powerful predictor of clinical outcomes than objective physiologic measures such as pulmonary function testing in the general population, or angina in patients referred for cardiac evaluation.
- **Option C:** Edema is a later sign of heart failure, often seen after an MI. All the factors which contribute to increased pressure in the left side and pooling of blood on the left side of the heart can cause cardiogenic pulmonary edema. The result of all these conditions will be increased pressure on the left side of the heart: increased pulmonary venous pressure→ increased capillary pressure in lungs→ pulmonary edema.
- **Option D:** Palpitations may result from the reduced cardiac output, producing arrhythmias. In patients who describe the palpitations as a brief flip-flopping in the chest, the palpitations are thought to be caused by extrasystoles such as supraventricular or ventricular premature contractions. The flip-flop sensation is thought to result from the forceful contraction following the pause and the sensation that the heart is stopped results from the pause. The sensation of rapid fluttering in the chest is thought to result from a sustained ventricular or supraventricular arrhythmia.

86. The nurse is providing an educational session to new employees, and the topic is abuse to the older client. The nurse tells the employees that which client is most characteristic of a victim of abuse

- A. A 90-year-old woman with advanced Parkinson's disease
- B. A 68-year-old man with newly diagnosed cataracts
- C. A 70-year-old woman with early diagnosed Lyme's disease
- D. A 74-year-old man with moderate hypertension

Correct Answer: A. A 90-year-old woman with advanced Parkinson's disease

The typical abuse victim is a woman of advanced age with few social contacts and at least one physical or mental impairment that limits the ability to perform activities of daily living. In addition, the client usually lives alone or with the abuser and depends on the abuser for care.

- **Option B:** An elderly with newly diagnosed cataracts has less chance of being a victim of elder abuse. In general, elder abuse is considered a direct action, inaction, or negligence toward an older adult that harms them or places them at risk of harm either by a person in a position of presumed trust or by an outside individual targeting the victim based on age or disability.
- **Option C:** A 70-year-old woman with Lyme's disease has less chance of being subjected to elder abuse. Older adults with dementia or other cognitive impairment are at the highest risk, with nearly five times the rate of elder abuse seen compared to older adults without dementia.
- **Option D:** A man with moderate hypertension will have the least chance of being a victim of elder abuse since they are not considered to have very poor health and are not yet functionally impaired. A prevalent belief is that the increased reliance on a caregiver leads to a high caregiver burden, which may manifest as elder abuse.

87. Which of the following findings is the best indication that fluid replacement for the client with hypovolemic shock is adequate?

- A. Urine output greater than 30ml/hr
- B. Respiratory rate of 21 breaths/minute
- C. Diastolic blood pressure greater than 90 mmHg
- D. Systolic blood pressure greater than 110 mmHg

Correct Answer: A. Urine output greater than 30ml/hr

Urine output provides the most sensitive indication of the client's response to therapy for hypovolemic shock. Urine output should be consistently greater than 30 to 35 mL/hr. Renal losses of salt and fluid can lead to hypovolemic shock. The kidneys usually excrete sodium and water in a manner that matches intake. Diuretic therapy and osmotic diuresis from hyperglycemia can lead to excessive renal sodium and volume loss. In addition, there are several tubular and interstitial diseases beyond the scope of this article that cause severe salt-wasting nephropathy.

- **Option B:** Respiratory rate is not an indicator of adequate fluid replacement. Patients with volume depletion may complain of thirst, muscle cramps, and/or orthostatic hypotension. Severe hypovolemic shock can result in mesenteric and coronary ischemia that can cause abdominal or chest pain. Agitation, lethargy, or confusion may result from brain malperfusion.

- **Option C:** Diastolic blood pressure is a less reliable indicator of adequate fluid replacement. Although relatively nonsensitive and nonspecific, physical exams can be helpful in determining the presence of hypovolemic shock. Physical findings suggestive of volume depletion include dry mucous membranes, decreased skin turgor, and low jugular venous distention. Tachycardia and hypotension can be seen along with decreased urinary output.
- **Option D:** Systolic blood pressure is not a reliable indicator of fluid volume replacement. For hypovolemic shock due to fluid losses, history and physical should attempt to identify possible GI, renal, skin, or third-spacing as a cause of extracellular fluid loss. Symptoms of hypovolemic shock can be related to volume depletion, electrolyte imbalances, or acid-base disorders that accompany hypovolemic shock.

88. What is the most important nursing diagnosis for a patient in end-stage renal disease?

- A. Risk for injury
- B. Fluid volume excess
- C. Altered nutrition: less than body requirements
- D. Activity intolerance

Correct Answer: B. Fluid volume excess

Kidneys are unable to rid the body of excess fluids which results in fluid volume excess during ESRD. Renal disorder impairs glomerular filtration that results in fluid overload. With fluid volume excess, hydrostatic pressure is higher than the usual pushing excess fluids into the interstitial spaces. Since fluids are not reabsorbed at the venous end, fluid volume overloads the lymph system and stays in the interstitial spaces.

- **Option A:** Assess I&O, electrolyte panel, and creatinine; administer diuretics as ordered. Provides an indication of renal function affecting output with water and electrolyte retention as the disease progresses and nephrons are destroyed.
- **Option C:** Due to restricted foods and prescribed dietary regimen, an individual experiencing renal problems cannot maintain ideal body weight and sufficient nutrition. At the same time, patients may experience anemia due to decreased erythropoietic factors that cause a decrease in the production of RBC causing anemia and fatigue.
- **Option D:** Assess the extent of weakness, fatigue, ability to participate in active and passive activities. Provides information about the impact of activities on fatigue and energy reserves. Schedule care and provide rest periods following an activity; allow the client to set their own limits in the amount of exertion tolerated.

89. A male adult patient hospitalized for treatment of a pulmonary embolism develops respiratory alkalosis. Which clinical findings commonly accompany respiratory alkalosis?

- A. Nausea or vomiting
- B. Abdominal pain or diarrhea
- C. Hallucinations or tinnitus
- D. Lightheadedness or paresthesia

Correct Answer: D. Lightheadedness or paresthesia

The patient with respiratory alkalosis may complain of lightheadedness or paresthesia (numbness and tingling in the arms and legs). The exact history and physical exam findings are highly variable as there are many pathologies that induce the pH disturbance. These may include acute onset dyspnea, fever, chills, peripheral edema, orthopnea, weakness, confusion, light-headedness, dizziness, anxiety, chest pain, wheezing, hemoptysis, trauma, history of central line catheter, recent surgery, history of thromboembolic disease, history of asthma, history of COPD, acute focal neurological signs, numbness, paresthesia, abdominal pain, nausea, vomiting, tinnitus, or weight loss.

- **Option A:** Nausea, vomiting, abdominal pain, and diarrhea may accompany respiratory acidosis. Following a performance predominantly relying on anaerobic glycolysis, systemic acidosis may cause vomiting as a physiological response to drain H⁺ and thereby allow the stomach to add bicarbonate to the body
- **Option B:** Hyperchloremic acidosis is caused by the loss of too much sodium bicarbonate from the body, which can happen with severe diarrhea. In pathologies with profuse watery diarrhea, bicarbonate within the intestines is lost through the stool due to increased motility of the gut. This leads to further secretion of bicarbonate from the pancreas and intestinal mucosa, leading to net acidification of the blood from bicarbonate loss.
- **Option C:** Hallucinations and tinnitus are associated with respiratory alkalosis or any other acid-base imbalance. Respiratory alkalosis in itself is not life-threatening; however, the underlying etiology may be. Always look for and treat the source of the illness. Interventions to reduce pH directly are typically not necessary as there is no mortality benefit to this therapy.

90. Nurse Pietro receives an 11-month old child with a fracture of the left femur on the pediatric unit. Which action is important for the nurse to take first?

- A. Call for a social worker to meet with the family.
- B. Check the child's blood pressure, pulse, respiration, and temperature.
- C. Administer pain medications
- D. Speak with the parents about how the fracture occurred.

Correct Answer: D. Speak with the parents about how the fracture occurred.

In case of injury, especially among children, it is very important that the nurse should first assess possible abuse. Abuse is one of the reporting responsibilities of the nurse. The first step in any child protection response system is the identification of possible incidents of child maltreatment. Medical personnel, educators, childcare providers, mental health professionals, law enforcement personnel, the clergy, and other professionals are often in a position to observe and/or screen families and children to identify abuse or neglect when it occurs.

- **Option A:** An initial assessment or investigation is conducted on reports that are screened in during the intake process to identify whether the maltreatment can be substantiated. In addition to child protective services and law enforcement, other professionals such as medical and mental health personnel, teachers and childcare providers, and foster care or residential staff may play a role in the initial assessment.
- **Option B:** After initial screening for child abuse, the nurse may take the patient's vital signs. State laws provide guidance to child protective services (CPS) agencies regarding identifying and reporting suspected child maltreatment, investigating to determine whether abuse occurred, and providing necessary services for children and youth and their families.

- **Option C:** Administering pain medications can be done after assessing the patient's vital signs. Ibuprofen worked at least as well as acetaminophen with codeine for fracture pain control, and had fewer adverse effects. Children given ibuprofen were better able to eat and play than those given acetaminophen with codeine—an important patient-oriented functional outcome.

91. A female client has experienced an episode of myasthenic crisis. The nurse would assess whether the client has precipitating factors such as:

- A. Getting too little exercise.
- B. Taking excess medication.
- C. Omitting doses of medication.
- D. Increasing intake of fatty foods.

Correct Answer: C. Omitting doses of medication.

Myasthenic crisis often is caused by under medication and responds to the administration of cholinergic medications, such as neostigmine (Prostigmin) and pyridostigmine (Mestinon). Myasthenic crisis is a complication of myasthenia gravis characterized by worsening of muscle weakness, resulting in respiratory failure that requires intubation and mechanical ventilation.

- **Option A:** The most common precipitant is infection. One series documented infection in 38% of patients presenting with myasthenic crisis; most commonly, the infection was bacterial pneumonia followed by a bacterial or viral upper respiratory infection. Other antecedent factors include exposure to temperature extremes, pain, sleep deprivation, and physical or emotional stress.
- **Option B:** Cholinergic crisis (the opposite problem) is caused by excess medication and responds to withholding of medications. Patients taking an excess of acetylcholinesterase inhibitors may precipitate a cholinergic crisis characterized by both muscarinic and nicotinic toxicity. Although cholinergic crisis is an important consideration in the evaluation of the patient in myasthenic crisis, it is uncommon.
- **Option D:** Too little exercise and fatty food intake are incorrect. Overexertion and overeating possibly could trigger a myasthenic crisis. Other precipitants include aspiration pneumonitis, surgery, pregnancy, perimenstrual state, certain medications (see below), and tapering of immune-modulating medications.

92. A nurse is caring for a group of clients who are taking herbal medications at home. Which of the following clients should be instructed not to take herbal medications? Select all that apply.

- A. A 60-year-old male client with rhinitis
- B. A 24-year-old male client with a lower back injury
- C. An 8-year-old uncircumcised male client with a urinary tract infection
- D. A 10-year-old female client with a urinary tract infection
- E. A 45-year-old female client with a history of migraine headaches

Correct Answer: C & D.

Herbal supplements are products derived from plants and/or their oils, roots, seeds, berries, or flowers. Herbal supplements have been used for many centuries. They are believed to have healing properties.

- **Options A and E:** Feverfew (*Tanacetum parthenium*) is believed to prevent and treat migraines, arthritis, and allergies. Feverfew can interfere with blood clotting when taken internally.
- **Option B:** Arnica (*Arnica montana*) is applied externally to reduce pain from bruising, aches, and sprains, and to relieve constipation. Arnica is potentially toxic to the heart and can raise blood pressure if taken internally.
- **Options C and D:** Children should not be given herbal therapies, especially in the home and without professional supervision.

93. A client with influenza is prescribed with an antiviral drug. The nurse determines that the client indicates an understanding of the treatment if he or she states the following?

- A. "I will take the medication exactly as prescribed".
- B. "I will not be able to infect others while I am on this treatment".
- C. "I will stop the medication once I feel okay".
- D. "I will resume my usual activities because these medications have minimal undesirable effects".

Correct Answer: A. "I will take the medication exactly as prescribed".

Antiviral drugs are taken exactly as prescribed. When used as directed, these medicines may help decrease the duration of flu symptoms and lessen the severity of common flu symptoms.

- **Option B:** Antiviral drugs do not prevent the spread of influenza and patients are still contagious for up to two days after the start of the therapy.
- **Option C:** The durations for the medications are followed until the last day of the treatment.
- **Option D:** Side effects such as dizziness and drowsiness will alert the client to be careful resuming their daily activities.

94. In a specialized pediatric oncology unit, a 7-year-old patient, Noah, has been diagnosed with acute lymphoblastic leukemia (ALL) and is scheduled to commence a chemotherapy regimen as a part of his treatment plan. The pediatric oncology nursing team is meticulously preparing to administer the chemotherapy, cognizant of the potential adverse effects and the critical importance of precise administration to optimize treatment efficacy and patient safety. The charge nurse, with a well-versed knowledge in pediatric oncology nursing, is reviewing the protocol with the nursing staff to ensure a thorough understanding and adherence to the guidelines for chemotherapy administration. The discussion is comprehensive, covering a spectrum of considerations including monitoring for adverse reactions, ensuring a patent intravenous line, and being vigilant for signs of infusion-related complications. Which of the following actions, if performed by the nursing staff during the administration of chemotherapy to Noah, would be deemed inappropriate?

- A. Monitoring the child for both general and specific adverse effects.
- B. Observing the child for 10 minutes to note for signs of anaphylaxis.
- C. Administering medication through a free-flowing intravenous line.
- D. Assessing for signs of infusion infiltration and irritation.
- E. Pre-medicating the child with anti-emetics as ordered, to manage nausea and vomiting.
- F. Conducting a thorough assessment of the child's overall health status and obtaining baseline vital signs prior to administering chemotherapy.
- G. Administering the chemotherapy at a rapid rate to minimize the duration of the infusion.

Correct Answer: G. Administering the chemotherapy at a rapid rate to minimize the duration of the infusion.

Administering chemotherapy at a rapid rate to minimize infusion duration is inappropriate and dangerous. Chemotherapy agents are dosed specifically to balance efficacy with toxicity and should be administered at the prescribed rate to ensure patient safety and treatment effectiveness.

- **Option A:** Monitoring for adverse effects is a crucial aspect of chemotherapy administration to ensure the safety and well-being of the patient.
- **Option B:** Observing for signs of anaphylaxis, especially in the initial phase post administration, is crucial for early detection and management of a severe allergic reaction. However, an extended observation period might be more prudent given the severity of such a reaction.
- **Option C:** Ensuring a free-flowing intravenous line is a fundamental step to ensure accurate dosage delivery and to prevent complications such as infiltration or extravasation.
- **Option D:** Assessing for infusion infiltration and irritation is essential to prevent, identify, and manage potential complications associated with IV chemotherapy administration.
- **Option E:** Pre-medication with anti-emetics can be crucial for managing chemotherapy-induced nausea and vomiting, which are common side effects of chemotherapy.
- **Option F:** Conducting a thorough assessment prior to chemotherapy administration is a pivotal step in ensuring the patient's readiness for chemotherapy and for recognizing any potential contraindications.

95. The purpose of increasing urine acidity through dietary means is to:

- A. Decrease burning sensations
- B. Change the urine's color
- C. Change the urine's concentration
- D. Inhibit the growth of microorganisms

Correct Answer: D. Inhibit the growth of microorganisms

Microorganisms usually do not grow in an acidic environment. A diet high in citrus fruits, vegetables, or dairy products can increase urine pH. A diet high in meat products or cranberries can decrease urine pH. The acidity of urine — as well as the presence of small molecules related to diet — may influence how well bacteria can grow in the urinary tract, a new study shows. The research, at Washington University School of Medicine in St. Louis, may have implications for treating urinary tract infections, which are among the most common bacterial infections worldwide.

- **Option A:** Henderson and his team, including first author Robin R. Shields-Cutler, a graduate student in Henderson's lab, were interested in studying how the body naturally fights bacterial infections. They cultured E. coli in urine samples from healthy volunteers and noted major differences in how well individual urine samples could harness a key immune protein to limit bacterial growth. The urine samples that prevented bacterial growth supported more activity of this key protein, which the body makes naturally in response to infection, than the samples that permitted bacteria to grow easily. The protein is called siderocalin, and past research has suggested that it helps the body fight infection by depriving bacteria of iron, a mineral necessary for bacterial growth.
- **Option B:** Importantly, the researchers also showed that they could encourage or discourage bacterial growth in urine simply by adjusting the pH, a finding that could have implications for how patients with UTIs are treated.
- **Option C:** Indeed, their results implicate cranberries among other possible dietary interventions. Shield-Cutler noted that many studies already have investigated extracts or juices from cranberries as UTI treatments but the results of such investigations have not been consistent. "It's possible that cranberries may be more effective when paired with a treatment to make the urine less acidic," Henderson said. "And even then, maybe cranberries only work in people who have the right gut microbes."

96. Johnette is reviewing her lessons in Pharmacology. She is aware that the general classification of drugs belonging to the opioid category is analgesic and:

- A. Tranquilizing
- B. Hallucinogenic
- C. Stimulant
- D. Depressant

Correct Answer: D. Depressant

Opiates are both analgesics and CNS depressants because they decrease the effect of neurotransmitters that are excitatory or stimulating. Opioids act both presynaptically and postsynaptically to produce an analgesic effect. Presynaptically, opioids block calcium channels on nociceptive afferent nerves to inhibit the release of neurotransmitters such as substance P and glutamate, which contribute to nociception. Postsynaptically, opioids open potassium channels, which hyperpolarize cell membranes, increasing the required action potential to generate nociceptive transmission. The mu, kappa, and delta-opioid receptors mediate analgesia spinal and supraspinal.

- **Option A:** Although an opiate can provide a tranquilizing effect; the general category would be that of a depressant. Tranquilizer, also spelled Tranquillizer, a drug that is used to reduce anxiety, fear, tension, agitation, and related states of mental disturbance. Tranquilizers fall into two main classes, major and minor. Major tranquilizers, which are also known as antipsychotic agents, or neuroleptics, are so called because they are used to treat major states of mental disturbance in schizophrenics and other psychotic patients. By contrast, minor tranquilizers, which are also known as antianxiety agents, or anxiolytics, are used to treat milder states of anxiety and tension in healthy individuals or people with less serious mental disorders.
- **Option B:** Hallucinogens are a diverse group of drugs that alter a person's awareness of their surroundings as well as their own thoughts and feelings. They are commonly split into two categories: classic hallucinogens (such as LSD) and dissociative drugs (such as PCP). Both types

of hallucinogens can cause hallucinations or sensations and images that seem real though they are not. Additionally, dissociative drugs can cause users to feel out of control or disconnected from their body and environment.

- **Option C:** Stimulant is a category that does not apply to opiates. Stimulants are a class of drugs that speed up the messages between the brain and the body. They can make a person feel more awake, alert, confident or energetic. Large doses of stimulants can cause over-stimulation, causing anxiety, panic, seizures, headaches, stomach cramps, aggression, and paranoia. Long-term use of strong stimulants can also cause a number of adverse effects. Stimulants include caffeine, nicotine, amphetamines, and cocaine.

97. A nurse is performing an assessment of a client who is scheduled for cesarean delivery. Which assessment finding would indicate a need to contact the physician?

- A. Fetal heart rate of 180 beats per minute.
- B. White blood cell count of 12,000.
- C. Maternal pulse rate of 85 beats per minute.
- D. Hemoglobin of 11.0 g/dL.

Correct Answer: A. Fetal heart rate of 180 beats per minute.

A normal fetal heart rate is 120-160 beats per minute. A count of 180 beats per minute could indicate fetal distress and would warrant physician notification.

- **Option B:** WBC count increases to 6 to 16 million/mL and can be as high as 20 million/mL during and shortly after labor.
- **Option C:** Initially, the increase in cardiac output is due to an increase in stroke volume. As the stroke volume decreases towards the end of the third trimester, an increase in heart rate acts to maintain the increased cardiac output.
- **Option D:** By full-term, a normal maternal hemoglobin range is 11-13 g/dL as a result of the hemodilution caused by an increase in plasma volume during pregnancy.

98. When assessing clients for evidence of a penicillin allergy, which of the following symptoms may not be considered to be a true hypersensitivity reaction?

- A. Wheezing
- B. Nausea
- C. Urticaria
- D. Angioneurotic edema

Correct Answer: B. Nausea

GI disturbances such as nausea are usually caused by direct irritation or overgrowth of gram-positive bacteria or yeasts and are not indicative of a true penicillin allergy. Anaphylaxis, characterized by symptomatic hypotension with associated dyspnoea, urticaria, and possibly gastrointestinal (GI) symptoms, is the most severe manifestation of IgE-mediated drug allergy. It is most common after

parenteral drug administration and is rare with oral or cutaneous exposure.

- **Option A:** Anaphylaxis results when antigen-specific IgE is present on mast cells and systemic exposure to antigen occurs, cross-linking the IgE. This results in the simultaneous degranulation of large numbers of mast cells.
- **Option C:** Mast cells contain histamine and other vasoactive mediators. Their sudden release, due to either an IgE-mediated anaphylactic reaction or a similar non-IgE-mediated reaction (referred to as an “anaphylactic” reaction), results in a sudden drop in blood pressure and blood volume, flushing, itching, and potentially respiratory compromise, bowel edema, and potential death
- **Option D:** If a patient has exhibited signs of a true allergic reaction, re-exposure to penicillin or related antibiotics can trigger life-threatening anaphylaxis. It has been estimated that up to 60% of penicillin-allergic patients will experience another allergic event if given the drug again. However, new data suggest that this rate is less than 2%.

99. Which of the following is a potential side effect of IV furosemide (Lasix)?

- A. Drowsiness
- B. Diarrhea
- C. Cystitis
- D. Hearing loss

Correct Answer: D. Hearing loss

Patients receiving large doses of loop diuretics are at risk for developing ototoxicity. Ototoxicity can occur with any of the loop diuretics, especially with the concomitant use of aminoglycosides and renal impairment. Furosemide has increased risk for ototoxicity in those with hypoproteinemia (those with nephrotic syndrome). Ethacrynic acid has been known to have a more ototoxic potential than the other members and can lead to permanent sensorineural hearing loss without proper caution of its use, especially concomitantly with another loop diuretic.

- **Option A:** In those with advanced renal failure with symptoms of fluid overload, physicians should closely monitor fluid status and renal function to prevent the onset of oliguria, BUN, and creatinine increases, and azotemia. Close management of aggressive diuresis requires careful surveillance.
- **Option B:** Diuretic toxicity can present in the form of electrolyte imbalances (hyponatremia, hypokalemia, hypocalcemia), acid/base disturbances (hypochloremic alkalosis), and dehydration secondary to excessive diuresis. Care is necessary to check electrolytes while the patient is on a diuretic periodically.
- **Option C:** Hepatotoxicity or those with cirrhosis also require caution as changes in electrolytes and acid/base balance may precipitate hepatic encephalopathy. An aldosterone antagonist or potassium-sparing diuretic may offer adequate diuresis without the risk of electrolyte imbalance.

100. The nurse is teaching the client how to perform a colostomy irrigation. To enhance the effectiveness of the irrigation and fecal returns, what measure should the nurse instruct the client to do?

- A. Increase fluid intake.
- B. Reduce the amount of irrigation solution.

C. Perform the irrigation in the evening.

D. Place heat on the abdomen.

Correct Answer: A. Increase fluid intake.

To enhance the effectiveness of the irrigation and fecal returns, the client is instructed to increase fluid intake and prevent constipation. A colostomy may make the client more prone to constipation or diarrhea. It's important to get enough fiber in the diet and drink plenty of water to prevent these problems. Some people experience a small amount of stool leakage between irrigations.

- **Option B:** Fill the irrigating container with about 16 to 50 ounces (500 to 1500 mL) of lukewarm water. The water should not be cold or hot. Ask how much water will be needed to irrigate. Hang the irrigation container so that it is level with the shoulder.
- **Option C:** It is best to perform irrigation at the same time each day. The client may want to try irrigating at the time of day he typically had a bowel movement (before getting the colostomy). Irrigation may be easier after a meal or hot drink.
- **Option D:** Abdominal pain or nausea may occur during irrigation, and may mean that water flow is too fast or the water is too cold. In six to eight weeks, the bowels will typically adjust, and bowel movements will become regular.