

Kevin's Review - 85 NCLEX Practice Questions

1. During the initial interview, the client reports that she has a lesion on the perineum. Further investigation reveals a small blister on the vulva that is painful to touch. The nurse is aware that the most likely source of the lesion is:

- A. Syphilis
- B. Herpes
- C. Gonorrhea
- D. Condylomata

Correct Answer: B. Herpes

A lesion that is painful is most likely a herpetic lesion. Herpes genitalis can be caused by the herpes simplex virus type 1 or type 2 and manifests as either a primary or recurrent infection. Most commonly, viral replication occurs in epithelial tissue and establishes dormancy in sensory neurons, reactivating periodically as localized recurrent lesions. It remains one of the most common sexually transmitted infections (STI) but continues to be underestimated, given the vague presentation of its symptoms.

- **Option A:** A chancre lesion associated with syphilis is not painful. The classic primary syphilis presentation is a solitary non-tender genital chancre in response to invasion by the *T. pallidum*. However, patients can have multiple non-genital chancres, such as digits, nipples, tonsils, and oral mucosa. These lesions can occur at any site of direct contact with the infected lesion and are accompanied by tender or nontender lymphadenopathy.
- **Option C:** Gonorrhea does not present as a lesion, but is exhibited by a yellow discharge. Although many females, more than 50%, will not manifest symptoms of their gonococcal cervix infections, most males, more than 90%, will manifest urogenital gonorrhea symptomatically. The most common clinical manifestations of gonococcal disease in males include penile purulent discharge, dysuria, and testicular discomfort.
- **Option D:** Condylomata lesions are painless warts, so answer D is incorrect. Patients will generally be concerned about the appearance of the lesions, as they often cause psychological and psychosexual distress. Condyloma acuminata may also be found incidentally during routine female gynecological examinations.

2. Which client(s) are appropriate to assign to the LPN/LVN, who will function under the supervision of the RN or team leader? Select all that apply.

- A. A client who needs pre-op teaching for use of a PCA pump.
- B. A client with a leg cast who needs neurologic checks and PRN hydrocodone.
- C. A client post-op toe amputation with diabetic neuropathic pain.
- D. A client with terminal cancer and severe pain who is refusing medication.

Correct Answer: B & C.

The clients with the cast and the toe amputation are stable clients and need ongoing assessment and pain management that are within the scope of practice for an LPN/LVN under the supervision of an RN. The RN should take responsibility for preoperative teaching, and terminal cancer needs a comprehensive assessment to determine the reason for refusal of medication.

- **Option A:** Preoperative teaching is a nursing responsibility. Proper and appropriate assignments facilitate quality care. Improper and inappropriate assignments can lead to poor quality of care,

disappointing outcomes of care, the jeopardization of client safety, and even legal consequences.

- **Option B:** The clients with the cast are within the scope of practice for an LPN/LVN under the supervision of an RN. Delegation, simply defined, is the transfer of the nurse's responsibility for the performance of a task to another nursing staff member while retaining accountability for the outcome. Responsibility can be delegated. Accountability cannot be delegated. The delegating registered nurse remains accountable for all client care despite the fact that some of these aspects of care can, and are, delegated to others.
- **Option C:** The client with the toe amputation is a stable client and needs ongoing assessment and pain management that are within the scope of practice for an LPN/LVN under the supervision of an RN. The staff members' levels of education, knowledge, past experiences, skills, abilities, and competencies are also evaluated and matched with the needs of all of the patients in the group of patients that will be cared for.
- **Option D:** A client with terminal cancer and severe pain who is refusing medication is a nursing responsibility. Based on these characteristics and the total client needs for the group of clients that the registered nurse is responsible and accountable for, the registered nurse determines and analyzes all of the health care needs for a group of clients; the registered nurse delegates care that matches the skills of the person that the nurse is delegating to.

3. A client who had a stroke is seen bumping into things on the side and is having difficulty picking up the beginning of the next line of what he is reading. The client is experiencing which of the following conditions?

- A. Visual neglect
- B. Astigmatism
- C. Blepharitis
- D. Homonymous Hemianopsia

Correct Answer: D. Homonymous Hemianopsia

Homonymous Hemianopsia is the loss of half of the visual field. It is usually caused by a stroke, brain tumor, and trauma. A client with hemianopia may bump into things on the side of the visual field defect and often lose their place in reading due to the visual field loss.

- **Option A:** Visual neglect is an attention problem to one side of the body. It is a sensory loss limited to the visual fields and results from damage to the primary visual pathways connecting the optic tract and striate cortex.
- **Option B:** Astigmatism is a condition that causes blurred vision due either to the irregular shape of the cornea, the clear front cover of the eye, or sometimes the curvature of the lens inside the eye.
- **Option C:** Blepharitis is the inflammation of the eyelids that is usually caused by a bacterial infection of the eyelid margin at the origin of the eyelashes. Signs and symptoms include itching and burning of the eyelid margins with edema and redness.

4. A client with a positive Mantoux test result will be sent for a chest x-ray. For which of the following reasons is this done?

- A. To confirm the diagnosis.
- B. To determine if a repeat skin test is needed.

- C. To determine the extent of the lesions.
- D. To determine if this is a primary or secondary infection.

Correct Answer: C. To determine the extent of the lesions.

If the lesions are large enough, the chest x-ray will show their presence in the lungs. A positive Mantoux test indicates exposure to tuberculosis or latent tuberculosis. However, this test lacks specificity, and patients require subsequent visits to interpret the result and a chest x-ray for confirmation of the disease.

- **Option A:** Sputum culture confirms the diagnosis. Mycobacterial culture is the gold standard for diagnosis. Mycobacterial culture should be performed on both the solid and liquid medium. Liquid media culture can detect very low bacterial load and is considered a gold standard. Culture essential for drug susceptibility testing.
- **Option B:** There can be false-positive and false-negative skin test results. Although the test is considered relatively sensitive, false-positive results are seen with BCG vaccination. The Mantoux test should never be regarded as a confirmatory test.
- **Option D:** A chest x-ray can't determine if this is a primary or secondary infection. Apart from these, Tuberculin skin testing and/or interferon-gamma release assay should be performed depending on the situation. These tests should not be wholly relied upon in the diagnosis of active tuberculosis, but assist in diagnosis.

5. An adolescent brings a physician's note to school stating that he is not to participate in sports due to a diagnosis of Osgood-Schlatter disease. Which of the following statements about the disease is correct?

- A. The condition was caused by the student's competitive swimming schedule.
- B. The student will most likely require surgical intervention.
- C. The student experiences pain in the inferior aspect of the knee.
- D. The student is trying to avoid participation in physical education.

Correct Answer: C. The student experiences pain in the inferior aspect of the knee.

Osgood-Schlatter disease occurs in adolescents in the rapid growth phase when the infrapatellar ligament of the quadriceps muscle pulls on the tibial tubercle, causing pain and swelling in the inferior aspect of the knee. Osgood-Schlatter disease is commonly caused by activities that require repeated use of the quadriceps, including track and soccer.

- **Option A:** Swimming is not a likely cause. OSD is a traction phenomenon resulting from repetitive quadriceps contraction through the patellar tendon at its insertion upon the skeletally immature tibial tubercle. This occurs in preadolescence during a time when the tibial tubercle is susceptible to strain. The pain associated will be localized to the tibial tubercle and occasionally the patellar tendon itself.
- **Option B:** The condition is usually self-limited, responding to ice, rest, and analgesics. OSD is a self-limiting condition. In a study by Krause et al, 90% of patients treated with conservative care were relieved of all of their symptoms approximately 1 year after the onset of symptoms. [3] After skeletal maturity, patients may continue to have problems kneeling. This typically is due to tenderness over an unfused tibial tubercle ossicle or a bursa that may require resection.
- **Option D:** Continued participation will worsen the condition and the symptoms. The onset of OSD is usually gradual, with patients commonly complaining of pain in the tibial tubercle and/or patellar

tendon region after repetitive activities. Typically, running or jumping activities that significantly stress the patellar tendon insertion upon the tibial tubercle aggravate the patient's symptoms.

6. You are supervising a student nurse who is performing tracheostomy care for a patient. For which action by the student should you intervene?

- A. Suctioning the tracheostomy tube before performing tracheostomy care
- B. Removing old dressings and cleaning off excess secretions
- C. Removing the inner cannula and cleaning using universal precautions
- D. Replacing the inner cannula and cleaning the stoma site.
- E. Changing the soiled tracheostomy ties and securing the tube in place.

Correct Answer: C. Removing the inner cannula and cleaning using universal precautions

When tracheostomy care is performed, a sterile field is set up and sterile technique is used. Standard precautions such as washing hands must also be maintained but are not enough when performing tracheostomy care. The presence of a tracheostomy tube provides direct access to the lungs for organisms, so sterile technique is used to prevent infection. All of the other steps are correct and appropriate.

- **Option A:** Suctioning of the tracheostomy tube is necessary to remove mucus, maintain a patent airway, and avoid tracheostomy tube blockages. The frequency of suctioning varies and is based on individual patient assessment. It is recommended that the episode of suctioning (including passing the catheter and suctioning the tracheostomy tube) is completed within 5-10 seconds.
- **Option B:** The tracheal stoma in the immediate post-operative period requires regular assessment and wound management including once daily dressing change following cleaning of the stoma area or more frequently if required.
- **Option D:** Care of the stoma is commenced in the immediate postoperative period, and is ongoing. Clean stoma with cotton wool applicator sticks moistened with 0.9% sodium chloride. Use each cotton wool applicator stick once only taking it from one side of the stoma opening to the other and then discard in waste.
- **Option E:** The frequency of a tracheostomy tube changes is determined by the Respiratory and ENT teams except in an emergency situation. This can vary depending on the patient's individual needs and tracheostomy tube type. It is imperative that the first tracheostomy tube change is performed with both nursing and medical staff who are competent in tracheostomy management and the tracheostomy kit is available at the bedside.

7. To prevent postoperative complications, Nurse Kim assists the client with coughing and deep breathing exercises. This is best accomplished by implementing which of the following?

- A. Coughing exercises one hour before meals and deep breathing one hour after meals.
- B. Forceful coughing as many times as tolerated.
- C. Huff coughing every two hours or as needed.
- D. Diaphragmatic and pursed lip breathing 5 to 10 times, four times a day.

Correct Answer: C. Huff coughing every two hours or as needed.

Huff coughing helps keep the airways open and secretions mobilized. Huff coughing is an alternative for clients who are unable to perform a normal forceful cough (such as postoperatively) deep breathing and coughing should be performed at the same time.

- **Option A:** Only at mealtimes is not sufficient. Deep breathing and coughing exercises can decrease the risk of lung complications following surgery. Not only can they prevent pneumonia, deep breathing helps to get more oxygen to the body's cells. These exercises can also be beneficial to individuals who are susceptible to pulmonary or respiratory problems. Coughing and deep breathing work to clear mucus and allow moist air to enter the airways.
- **Option B:** Extended forceful coughing fatigues the client, especially postoperatively. If you are lying in bed and need to cough, it may be more comfortable to bend your knees up. Lean forward when you cough, if you are sitting in a chair. Place a pillow over your surgical incision and apply pressure to the area while coughing. This can help to alleviate any discomfort you feel. It's more comfortable to sit upright if you can when doing coughing exercises.
- **Option D:** Diaphragmatic and pursed-lip breathing are techniques used for clients with obstructive airway disease. You can perform breathing exercises by relaxing your shoulders and upper chest. Take a deep breath in through your nose. Hold the breath for three seconds. Breathe out slowly through your mouth. Repeat three times. Taking too many breaths can make you dizzy or light-headed. Perform breathing exercises every hour.

8. Which term refers to the pain that has a slower onset, is diffuse, radiates, and is marked by somatic pain from organs in any body activity?

- A. Acute pain
- B. Chronic pain
- C. Superficial pain
- D. Deep pain

Correct Answer: D. Deep pain

Deep pain has a slow onset, is diffuse, and radiates, and is marked by somatic pain from organs in any body activity. Deep somatic pain originates from structures deeper within the body, such as the joints, bones, tendons, and muscles. Like visceral pain, deep somatic pain is usually dull and aching. Deep somatic pain can either be experienced locally or more generally depending on the degree of trauma.

- **Option A:** Acute pain is rapid in onset, usually temporary (less than 6 months), and subsides spontaneously. Acute pain is a type of pain that typically lasts less than 3 to 6 months or pain that is directly related to soft tissue damage such as a sprained ankle or a paper cut. Acute pain is of short duration but it gradually resolves as the injured tissues heal.
- **Option B:** Chronic pain is marked by gradual onset and lengthy duration (more than 6 months). Chronic pain is pain that is ongoing and usually lasts longer than six months. This type of pain can continue even after the injury or illness that caused it has healed or gone away. Pain signals remain active in the nervous system for weeks, months, or years.
- **Option C:** Superficial pain has an abrupt onset with sharp, stinging quality. Superficial pain arises from nociceptive receptors in the skin and mucous membranes. Superficial somatic pain is the type of pain that happens with common everyday injuries and is characterized as pricking, sharp, burning, or throbbing pain.

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

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

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

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

- **Option A:** Itching under the cast is common and fairly benign. A cast can cause the client's underlying skin to feel itchy. To relieve itchy skin, turn a hair dryer on a cool setting and aim it under the cast.
- **Option B:** Neurovascular compromise in the arm would not cause pain in the shoulder, as perfusion there would not be affected. Pain is typically severe, out of proportion to the injury. Early on, pain may only be present with passive stretching. However, this symptom may be absent in advanced acute compartment syndrome. In the initial stages, pain may be characterized as a burning sensation or as a deep ache of the involved compartment.
- **Option D:** Impaired perfusion would cause the fingers to be cool and pale. Increased warmth would indicate increased blood flow or infection. Classically, the presentation of acute compartment syndrome has been remembered by "The Five P's": pain, pulselessness, paresthesia, paralysis, and pallor. However, aside from paresthesia, which may occur earlier in the course of the condition, these are typically late findings.

10. Which of the following statements reflects Kohlberg's theory of the moral development of the preschool-age child?

- A. Behavior is determined by consequences
- B. Showing care about the effect of their actions on others
- C. Following the rules of authorities is seen as important
- D. Pleasing others is viewed as good behavior

Correct Answer: A. Behavior is determined by consequences

- **Option A:** According to Kohlberg, in the preconventional stage of development, the behavior of the preschool child is determined by the consequences of the behavior. The person will be obedient to avoid punishment.
- **Option C:** This behavior describes the postconventional stage of moral development where laws are recognized as social contracts.

- Options B and D: These behaviors describe the conventional stage of moral development or often referred to as “good boy-good girl” orientation. Emphasis is placed on living up to social expectations.

11. Packed red blood cells have been prescribed for a client with low hemoglobin and hematocrit levels. The nurse takes the client’s temperature before hanging the blood transfusion and records 100.8 °F. Which action should the nurse take?

- A. Give an antipyretic and begin the transfusion.
- B. Proceed with the transfusion.
- C. Administer an antihistamine and begin the transfusion.
- D. Delay hanging the blood and inform the physician.

Correct Answer: D. Delay hanging the blood and inform the physician.

If the patient has a temperature higher than 100 ° F, the unit of blood should be hung and delayed until the physician is notified and has the opportunity to give further orders. Fever and/or chills are most commonly associated with a febrile, non-hemolytic reaction, however; they can also be the first sign of a more serious acute hemolytic reaction, TRALI, or septic transfusion reaction.

- **Option A:** Giving an antipyretic would require a physician’s order. All cases of suspected reactions should prompt immediate discontinuation of the transfusion and notification of the blood bank and treating clinician. A clerical check should be performed by examining the product bag and confirming the patient’s identification. The patient’s vital signs should be monitored and recorded at 15-minute intervals.
- **Option C:** Administering an antihistamine is incorrect since the administration of the medicine will need the physician’s prescription. Treatment of specific transfusion reactions is most often supportive. For example, antihistamines (such as diphenhydramine) can be given for a mild allergic reaction, or an antipyretic can be given for a nonhemolytic febrile transfusion reaction.
- **Option B:** The decision to administer the blood is not within the scope of nurse practice. Currently, guidelines for transfusion of red blood cells (RBC), generally follow a restrictive threshold. While there is some variation in the number for the threshold, 7 g/dL is an agreed-upon value for asymptomatic healthy patients.

12. Knowing that gluconeogenesis helps to maintain blood glucose levels, a nurse should:

- A. Document weight changes because of fatty acid mobilization.
- B. Evaluate the patient’s sensitivity to low room temperatures because of decreased adipose tissue insulation.
- C. Protect the patient from sources of infection because of decreased cellular protein deposits.
- D. Do all of the above.

Correct answer: D. Do all of the above

All measures ensure gluconeogenesis in maintaining glucose homeostasis. The purpose of gluconeogenesis is to maintain blood glucose levels during a fast. In the human body, some tissues

rely almost exclusively on glucose as a metabolic fuel source.

- **Option A:** Fatty acid oxidation is indispensable for gluconeogenesis; although fatty acid carbon cannot be used for glucose, fat oxidation provides both an energy source (ATP) to support gluconeogenesis and acetyl coenzyme A (acetyl-CoA) to activate pyruvate carboxylase.
- **Option B:** Cold exposure is associated with hypothalamic signals to constrict the peripheral blood vessels, minimize sweat production, and increase metabolic heat production (i.e., shivering and nonshivering thermogenesis) during prolonged and/or severe cold exposure to prevent dangerous drops in core temperature.
- **Option C:** A protein deficit can also take its toll on the immune system. Impaired immune function may increase the risk or severity of infections, a common symptom of severe protein deficiency.

13. A client with pancreatitis has requested pain medication. Which pain medication is indicated for the client with pancreatitis?

- A. Demerol (meperidine)
- B. Toradol (ketorolac)
- C. Morphine (morphine sulfate)
- D. Codeine (codeine)

Correct Answer: A. Demerol (meperidine)

- Option A: To prevent spasms of the sphincter of Oddi, the client with pancreatitis should receive non-opiate analgesics for pain such as Demerol.
- Option B: The client with pancreatitis might be prone to bleed; therefore, Toradol is not a drug of choice for pain control.
- Options C and D: Morphine and codeine, opiate analgesics, are contraindicated for the client with pancreatitis.

14. Which of the following statements by the parents of a child with school phobia would indicate the need for further teaching?

- A. "We'll keep him at home until the phobia subsides."
- B. "We'll work with his teachers and counselors at school."
- C. "We'll try to encourage him to talk about his problem."
- D. "We'll discuss possible solutions with him and his counselor."

Correct Answer: A. "We'll keep him at home until the phobia subsides."

The parents need more teaching if they state that they will keep the child home until the phobia subsides. Doing so reinforces the child's feelings of worthlessness and dependency.

- **Option B:** The child should attend school even during resolution of the problem.
- **Option C:** Allowing the child to verbalize helps the child to ventilate feelings and may help to uncover causes and solutions.
- **Option D:** Collaboration with the teachers and counselors at school may lead to uncovering the cause of the phobia and to the development of solutions. The child should participate and play an

active role in developing possible solutions.

15. A relative contraindication to therapy with androgens is:

- A. Hepatic failure
- B. Pregnancy
- C. Prostate cancer
- D. Hypogonadism

Correct Answer: A. Hepatic failure

Hepatic failure is considered a relative contraindication because antiandrogens have been known to cause hepatotoxicity. While topical testosterone delivery systems avoid first-pass hepatic metabolism, there remains concern regarding TRT in patients with chronic liver disease. The majority of reports of liver toxicity and jaundice are limited to orally-administered alkylated forms of testosterone.

- **Option B:** Pregnancy is considered an absolute contraindication. Hyperestrogenism can be a side effect of replacement therapy because testosterone undergoes aromatization to estrogen. Aromatase inhibitors may be necessary. Therefore, estradiol levels in men need to be assessed to rule out hyperestrogenism.
- **Option C:** Prostate cancer is an indication for anti androgen administration. Serum PSA levels can increase in response to testosterone treatment, so it is essential to rule out prostate cancer before starting therapy as it can worsen the disease process. Patients on replacement therapy require reevaluation for prostate cancer at three months and one year after beginning treatment. There have been no significant effects of testosterone on lower urinary tract symptoms and BPH. Physicians need to specifically address the risks and benefits of testosterone therapy before initiating treatment.
- **Option D:** Hypogonadism would not be considered a contraindication, but it most certainly is not an indication for therapy. Hypogonadism occurs in 19% of men in their 60s, 28% of men in their 70s, and 49% of men in their 80s. Testosterone is FDA-approved as replacement therapy in men who have low testosterone levels and those with symptoms of hypogonadism. It is essential to distinguish between primary (testicular) and secondary (pituitary-hypothalamic) hypogonadism. Symptoms highly suggestive of hypogonadism include decreased spontaneous erections, decreased nocturnal penile tumescence, decreased libido, decreased beard growth, and shrinking testicles.

16. Nurse Nina is assigned to care for a client diagnosed with Catatonic Stupor. When Nurse Nina enters the client's room, the client is found lying on the bed with a body pulled into a fetal position. Nurse Nina should:

- A. Ask the client direct questions to encourage talking.
- B. Take the client into the dayroom to be with other clients.
- C. Sit beside the client in silence and occasionally ask an open-ended question
- D. Leave the client alone and continue with providing care to the other clients.

Correct Answer: C. Sit beside the client in silence and occasionally ask an open-ended question

Clients who are withdrawn may be immobile and mute, and require consistent, repeated interventions. Communication with withdrawn clients requires much patience from the nurse. The nurse facilitates communication with the client by sitting in silence, asking open-ended questions, and pausing to provide opportunities for the client to respond.

- **Option A:** Therapeutic communication is often most effective when patients direct the flow of conversation and decide what to talk about. To that end, giving patients a broad opening such as “What’s on your mind today?” or “What would you like to talk about?” can be a good way to allow patients an opportunity to discuss what’s on their mind.
- **Option B:** At times, it’s useful to not speak at all. Deliberate silence can give both nurses and patients an opportunity to think through and process what comes next in the conversation. It may give patients the time and space they need to broach a new topic. Nurses should always let patients break the silence.
- **Option D:** Recognition acknowledges a patient’s behavior and highlights it without giving an overt compliment. A compliment can sometimes be taken as condescending, especially when it concerns a routine task like making the bed. However, saying something like “I noticed you took all of your medications” draws attention to the action and encourages it without requiring a compliment.

17. Marie, a 51-year-old woman, is diagnosed with cholecystitis. Which diet, when selected by the client, indicates that the nurse’s teaching has been successful?

- A. 4-6 small meals of low-carbohydrate foods daily
- B. High-fat, high-carbohydrate meals
- C. Low-fat, high-carbohydrate meals
- D. High-fat, low protein meals

Correct Answer: C. Low-fat, high-carbohydrate meals

- **Option C:** For the client with cholecystitis, fat intake should be reduced. The calories from fat should be substituted with carbohydrates.
- **Option A:** Reducing carbohydrate intake would be contraindicated.
- **Options B & D:** Any diet high in fat may lead to another attack of cholecystitis.

18. Spina bifida is one of the possible neural tube defects that can occur during early embryological development. Which of the following definitions most accurately describes meningocele?

- A. Complete exposure of spinal cord and meninges
- B. Herniation of the spinal cord and meninges into a sac
- C. Sac formation containing meninges and spinal fluid
- D. Spinal cord tumor containing nerve roots

Correct Answer: C. Sac formation containing meninges and spinal fluid.

Meningocele is a sac formation containing meninges and cerebrospinal fluid (CSF). Meningocele is the simplest form of open neural tube defects characterized by cystic dilatation of meninges containing

cerebrospinal fluid without any neural tissue. A complex meningocele is associated with other spinal anomalies. Meningocele is a typically asymptomatic spinal anomaly and is not associated with acute neurologic conditions.

- **Option A:** Meningocele doesn't involve complete exposure of the spinal cord and meninges; this is a massive defect that's incompatible with life. A simple meningocele composed of meninges and CSF protruded into the subcutaneous tissue through a spinal defect. Skin overlying meningoceles are usually intact.
- **Option B:** Myelomeningocele is a herniation of the spinal cord, meninges, and CSF into a sac that protrudes through a defect in the vertebral arch. Myelomeningocele is the most common open neural tube defect. It is characterized by failure of the neural tube to close in the lumbosacral region during embryonic development (fourth-week post-fertilization), leading to the herniation of the meninges and spinal cord through a vertebral defect.
- **Option D:** Tumor formation is not associated with this defect. Meningocele presents as a swelling over the back covered with skin, present at birth. Defects can present at thoracolumbar, lumbosacral, lumbar, thoracic, sacral, and cervical regions. Neurological involvement and deficits are rare in meningocele.

19. The goal of preprandial blood glucose for those with type 1 diabetes mellitus is:

- A. <80 mg/dl
- B. <130 mg/dl
- C. <180 mg/dl
- D. >8%

Correct Answer: B. <130 mg/dl

According to the American Diabetes Association, the recommended preprandial glucose target for an adult with diabetes is between 80-130 mg/dl. In the management of diabetes, health care providers usually assess glycemic control with fasting plasma glucose (FPG) and premeal glucose measurements, as well as by measuring HbA1c.

- **Option A:** The word postprandial means after a meal; therefore, PPG concentrations refer to plasma glucose concentrations after eating. Many factors determine the PPG profile. In nondiabetic individuals, fasting plasma glucose concentrations (i.e., following an overnight 8- to 10-h fast) generally range from 70 to 110 mg/dl.
- **Option C:** This is the recommended postprandial (1-2 hours after eating) glucose target for an adult with diabetes. Elevated postprandial glucose (PPG) concentrations may contribute to suboptimal glycemic control. Postprandial hyperglycemia is also one of the earliest abnormalities of glucose homeostasis associated with type 2 diabetes and is markedly exaggerated in diabetic patients with fasting hyperglycemia.
- **Option D:** An A1c value of >8 signifies that diabetes is not well controlled and a high risk for diabetes complication is possible. For an HbA1c test to classify as normal, or in the non-diabetic range, the value must be below 5.7 %. Anyone with an HbA1c value of 5.7 % to 6.4 % is considered to be prediabetic, while diabetes can be diagnosed with an HbA1c of 6.5% or higher.

20. As a manager, she focuses her energy on both the quality of services rendered to the patients as well as the welfare of the staff of her unit. Which of

the following management styles does she adopt?

- A. Country club management
- B. Organization man management
- C. Team management
- D. Authority-obedience management

Correct Answer: C. Team management

Team management has a high concern for services and high concern for staff. Team management is the ability of an individual or an organization to administer and coordinate a group of individuals to perform a task. Team management involves teamwork, communication, objective setting, and performance appraisals.

- **Option A:** The country club leader has the most concern for people. This leader assumes that if employees are happy, they will work hard. This leader's high interest in the needs and feelings of employees affects productivity. With much of the focus on employee comfort, this leader finds it difficult to punish an employee. As a result, the relationship between employee and leader is very casual, like that of friends.
- **Option B:** Management is the process of guiding the development, maintenance, and allocation of resources to attain organizational goals. This process is based on four key functional areas of the organization: planning, organizing, leading, and controlling.
- **Option D:** Authority-obedience management results from such a management style that is task-oriented, or task-motivated. The authority-obedience management style overly emphasizes the value of completing tasks to the extent that it risks human relationships.

21. After surgical repair of a hip, which of the following positions is best for the patient's legs and hips?

- A. Abduction
- B. Adduction
- C. Prone
- D. Subluxated

Correct Answer: A. Abduction

After surgical repair of the hip, keep the legs and hips abducted to stabilize the prosthesis in the acetabulum.

- **Option B:** Adduction brings the limb or hand toward or across the midline of the body, or brings the fingers or toes together.
- **Option C:** Prone position is a body position in which the person lies flat with the chest down and the back up.
- **Option D:** A subluxation is a partial dislocation of a joint. It's often the result of acute injury or repetitive motions, but it can also occur because of medical conditions where the ligaments are loose.

22. 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.

23. In a 25-bed medical-surgical unit, the nurse manager, Mrs. Davis, is starting her day with the task of assigning her nursing staff to patients. One of the patients, Mr. Patterson, a 68-year-old gentleman, was admitted the previous night with herpes zoster. Considering the contagious nature of herpes zoster and the potential risks to staff members, Mrs. Davis needs to make an informed decision to ensure that the staff caring for Mr. Patterson are not at risk of

contracting the virus. Given the following staff members available for assignments, which can be safely assigned to care for Mr. Patterson? Select all that apply.

- A. The nurse who never had German Measles.
- B. The nurse who never received the varicella zoster vaccine.
- C. The nurse who never had mumps.
- D. The nurse who never had roseola.
- E. The nurse who never had chicken pox.
- F. The nurse who had chickenpox during childhood.
- G. The nurse who recently received the varicella zoster vaccine.

Correct Answers: F and G.

Based on the given information, Mrs. Davis should consider assigning the nurses who had chickenpox during childhood and the nurse who recently received the varicella zoster vaccine to care for Mr. Patterson.

- **Option F:** Correct. This nurse has natural immunity against the varicella zoster virus and is less likely to contract it again.
- **Option G:** Correct. This nurse is protected due to the vaccination, making them safe to care for Mr. Patterson.
- **Option A:** Incorrect. German measles (rubella) is caused by a different virus and does not confer immunity against the varicella zoster virus.
- **Option B:** Incorrect. This nurse is at risk because they haven't been vaccinated and don't have natural immunity against the virus.
- **Option C:** Incorrect. Mumps is caused by a different virus and immunity against mumps doesn't provide protection against herpes zoster.
- **Option D:** Incorrect. Roseola is caused by human herpesviruses 6B and 7, different from the varicella-zoster virus.
- **Option E:** Incorrect. Without a history of chickenpox or vaccination, this nurse is at risk of contracting the varicella zoster virus.

24. In a didactic session of immunology, an instructor navigates through the intricate immune response pathways, juxtaposing a real-life clinical scenario of a 28-year-old patient recently diagnosed with Common Variable Immunodeficiency (CVID) to accentuate the intricacies of the immune system. The case sparks a nuanced discussion about innate and adaptive immunity, with particular focus on the elements and characteristics defining innate immunity. The patient's condition underscores the interplay between innate and adaptive immune responses and how a defect in one aspect can cascade into a series of immunological deficiencies. With this case as a backdrop, the students are tasked to identify which among the following components or characteristics is NOT typically ascribed to innate immunity.

- A. Mechanical mechanisms
- B. Chemical mediators
- C. Antibody production
- D. Natural Killer (NK) Cells

Correct Answer: C. Antibody production

Antibody production is a characteristic feature of adaptive immunity, not innate immunity. In adaptive immunity, B lymphocytes produce antibodies specific to the antigen encountered, which may take several days to develop upon initial exposure to a pathogen. This specific immune response with memory differentiates adaptive immunity from the generic and immediate response of innate immunity.

- **Option A:** Innate immunity encompasses mechanical mechanisms as one of its first lines of defense against pathogens. These include physical barriers such as the skin and mucous membranes, which prevent pathogens from entering the body. Hence, this component is quintessentially associated with innate immunity.
- **Option B:** Chemical mediators such as acidic pH, enzymes in saliva and tears, and antimicrobial peptides are integral to the innate immune system. They create an environment that is hostile to pathogens, thereby acting as a deterrent to microbial invasion. Thus, this component is traditionally linked with innate immunity.
- **Option D:** Natural Killer cells are a part of the innate immune system and play a crucial role in the early defense against viral infections and cancer cells. They are capable of identifying and killing infected cells and tumor cells without prior sensitization to antigens, showcasing a critical aspect of innate immunity.

25. A nurse is tasked with the education of an elderly female patient who has been recently diagnosed with osteoporosis. The patient leads a sedentary lifestyle, has a diet low in calcium, has undergone menopause ten years prior, and has a visibly kyphotic posture. In planning the education for this patient, which of the following complications should the nurse emphasize as the most significant risk associated with osteoporosis, especially considering the patient's profile?

- A. Increased susceptibility to bone fractures from minimal trauma
- B. Consequences of long-term estrogen deficiency post-menopause
- C. The impact of sustained negative calcium balance on bone density
- D. The progression of spinal deformities such as a kyphotic curvature
- E. Potential for height loss over time due to vertebral compression
- F. Risk of developing chronic pain associated with skeletal weakness

Correct Answer: A. Increased susceptibility to bone fractures from minimal trauma.

Given the patient's diagnosis of osteoporosis, a sedentary lifestyle, and poor dietary habits, the most significant and immediate complication is the risk of bone fractures, particularly hip, wrist, and spine fractures, which can result from minimal stress. The patient's visible kyphosis also indicates a history of spinal bone loss, which compounds this risk. Estrogen deficiency (B) is a contributing factor to the development of osteoporosis but is not a direct complication. Negative calcium balance (C) is a concern that should be addressed as it contributes to bone density loss; however, it is not a complication but

rather a contributing factor. Progression of spinal deformities (D), height loss (E), and chronic pain (F) are all concerns associated with osteoporosis. Still, the priority education should focus on preventing fractures, which can have immediate and severe consequences on the patient's mobility and quality of life.

26. A nurse is reviewing the medication list of a 45-year-old male patient admitted to the medical unit. The patient has a complex medical history, including a recent diagnosis of a bacterial respiratory infection, a past episode of Legionnaires disease, a family history of Campylobacteriosis infection, and a long-standing diagnosis of Multiple Sclerosis. The physician has ordered erythromycin as part of the patient's treatment plan. For which of the patient's conditions would the nurse question the administration of erythromycin?

- A. Recent bacterial respiratory infection
- B. Past episode of Legionnaires disease
- C. Family history of Campylobacteriosis infection
- D. Long-standing diagnosis of Multiple Sclerosis
- E. History of atypical pneumonia
- F. Recent exposure to a patient with pertussis

Correct Answer: D. Long-standing diagnosis of Multiple Sclerosis

Erythromycin is an antibiotic used to treat various bacterial infections, including Campylobacteriosis infection, Legionnaires disease, and certain types of pneumonia. It is not used to treat Multiple Sclerosis, which is an autoimmune disease affecting the central nervous system.

27. It is a serious condition in which the bone marrow does not produce enough new blood cells. It may be passed down from the parents or develop sometime during childhood:

- A. Iron deficiency anemia
- B. Sickle cell disease
- C. Aplastic anemia
- D. Thalassemia
- E. Hemophilia
- F. Idiopathic thrombocytopenic purpura

Correct Answer: C. Aplastic anemia

Aplastic anemia is characterized by pancytopenia (anemia, granulocytopenia, and thrombocytopenia) and bone marrow hypoplasia. Aplastic anemia refers to the syndrome of chronic primary hematopoietic failure from injury leading to diminished or absent hematopoietic precursors in the bone marrow and attendant pancytopenia.

- **Option A:** Iron deficiency anemia is caused by an inadequate supply of iron for normal red blood cell (RBC) formation. Iron deficiency anemia is the most common cause of anemia worldwide,

which results in microcytic and hypochromic red cells on the peripheral smear.

- **Option B:** Sickle cell disease is a group of chronic, severe, genetic, hemolytic diseases associated with hemoglobin (Hb) S, which transform red blood cells (RBCs) into a sickle (crescent) shape when blood oxygenation is decreased. Sickle cell disease (SCD) refers to a group of hemoglobinopathies that include mutations in the gene encoding the beta subunit of hemoglobin.
- **Option D:** Thalassemia is a group of inherited blood disorders characterized by deficient synthesis of specific globulin chains of hemoglobin molecules. Thalassemia is a heterogeneous group of blood disorders affecting the hemoglobin genes and resulting in ineffective erythropoiesis. The decreased production of hemoglobin results in anemia at an early age and frequent blood transfusions are required to keep up the hemoglobin levels.
- **Option E:** Hemophilia is a group of hereditary bleeding disorders characterized by a deficiency in a blood-clotting factor. Hemophilia A and B are the most common severe hereditary hemorrhagic disorders. Hemophilia A and B result from factor VIII and factor IX protein deficiency.
- **Option F:** Idiopathic thrombocytopenic purpura (ITP) is an acquired hemorrhagic disorder in which the number of circulating platelets is reduced. Immune thrombocytopenic purpura (ITP) is an autoimmune pathology characterized by a low platelet count, purpura, and hemorrhagic episodes caused by antiplatelet autoantibodies.

28. The nurse recognizes that urinary elimination changes may occur even in healthy older adults because of which of the following?

- A. The bladder distends and its capacity increases.
- B. Older adults ignore the need to void.
- C. Urine becomes more concentrated.
- D. The amount of urine retained after voiding increases.

Correct Answer: D. The amount of urine retained after voiding increases

The capacity of the bladder may decrease with age but the muscle is weaker and can cause urine to be retained. Muscle changes and changes in the reproductive system can affect bladder control. As the volume of urine held by the bladder increases, so too does the pressure therein. Wall pressure of 5 to 15 mm Hg creates a sensation of bladder fullness while 30 mm Hg and beyond is painful. The sensation of increasing bladder fullness is conveyed to the spinal cord via the pudendal and hypogastric nerves on both A-delta and C nerve fibers.

- **Option A:** The bladder wall changes. The elastic tissue becomes tough and the bladder becomes less stretchy. The bladder cannot hold as much urine as before. The urethra can become blocked. In women, this can be due to weakened muscles that cause the bladder or vagina to fall out of position (prolapse). In men, the urethra can become blocked by an enlarged prostate gland.
- **Option B:** Older adults don't ignore the urge to void and may have difficulty getting to the toilet in time. Bladder capacity changes throughout one's life. In children, an approximation of bladder volume can be calculated with the formula: $(\text{years of age} + 2) \times 30 \text{ mL}$. By adulthood, the average volume that a functional bladder can comfortably hold is between 300 and 400 mL.
- **Option C:** The kidney becomes less able to concentrate urine with age. Urination or micturition primarily functions in the excretion of metabolic products and toxic wastes. The urinary tract also serves as a storage vessel of the waste filtered from the kidneys. Urine stored in the bladder is released from the bladder through the urethra upon a complex network of neurological function.

29. Which of the following describes decerebrate posturing?

- A. Internal rotation and adduction of arms with flexion of elbows, wrists, and fingers.
- B. Back hunched over, rigid flexion of all four extremities with supination of arms and plantar flexion of the feet.
- C. Supination of arms, dorsiflexion of feet.
- D. Back arched; rigid extension of all four extremities.

Correct Answer: D. Back arched; rigid extension of all four extremities.

Decerebrate posturing occurs in patients with damage to the upper brain stem, midbrain, or pons and is demonstrated clinically by the arching of the back, rigid extension of the extremities, pronation of the arms, and plantar flexion of the feet.

- **Option A:** Internal rotation and adduction of arms with flexion of the elbows, wrists, and fingers described decorticate posturing, which indicates damage to corticospinal tracts and cerebral hemispheres.
- **Option B:** Synonymous terms for decorticate posturing include abnormal flexion, decorticate rigidity, flexor posturing, or decorticate response. Decorticate posturing is described as abnormal flexion of the arms with the extension of the legs. Specifically, it involves slow flexion of the elbow, wrist, and fingers with adduction and internal rotation at the shoulder. The lower limbs show extension and internal rotation at the hip, with the extension of the knee and plantar flexion of the feet. Toes are typically abducted and hyperextended.
- **Option C:** Synonymous terms for decerebrate posturing include abnormal extension, decerebrate rigidity, extensor posturing, or decerebrate response. Decerebrate posturing is described as adduction and internal rotation of the shoulder, extension at the elbows with pronation of the forearm, and flexion of the fingers. As with decorticate posturing, the lower limbs show extension and internal rotation at the hip, with the extension of the knee and plantar flexion of the feet. Toes are typically abducted and hyperextended.

30. John Reid is admitted to the hospital and is currently receiving hypertonic fluids. Nursing management for the client includes monitoring for all of the following potential complications except:

- A. Water intoxication
- B. Fluid volume excess (FVE)
- C. Cellular dehydration
- D. Cell shrinkage

Correct Answer: A. Water intoxication

Water intoxication is a potential complication associated with hypotonic fluid administration. Water intoxication provokes disturbances in electrolyte balance, resulting in a rapid decrease in serum sodium concentration and eventual death. The development of acute dilutional hyponatremia causes neurological symptoms because of the movement of water into the brain cells, in response to the fall in extracellular osmolality. Other choices are potential complications of hypertonic fluid administration.

- **Option B:** Fluid Volume Excess (FVE), or hypervolemia, refers to an isotonic expansion of the ECF due to an increase in total body sodium content and an increase in total body water. This fluid

overload usually occurs from compromised regulatory mechanisms for sodium and water as seen commonly in heart failure (CHF), kidney failure, and liver failure.

- **Option C:** Water moves from inside the cells to the bloodstream to maintain the needed amount of blood (blood volume) and blood pressure. If dehydration continues, tissues of the body begin to dry out, and cells begin to shrivel and malfunction.
- **Option D:** Cell shrinkage, or the loss of cell volume, is a ubiquitous characteristic of programmed cell death that is observed in all examples of apoptosis, independent of the death stimulus. This decrease in cell volume occurs in synchrony with other classical features of apoptosis.

31. A 68-year-old female patient, recently diagnosed with Parkinson's disease and rheumatoid arthritis, tells you during a follow-up visit that her urine is starting to look discolored. She also mentions that she has been taking over-the-counter medications for constipation and occasional headaches. Given her medical history and the potential side effects of medications, which of the following of the patient's medications is least likely to cause urine discoloration?

- A. Sulfasalazine (prescribed for her rheumatoid arthritis)
- B. Levodopa (prescribed for her Parkinson's disease)
- C. Phenolphthalein (over-the-counter medication for constipation)
- D. Aspirin (over-the-counter medication for her occasional headaches)

Correct Answer: D. Aspirin

Aspirin is not known to cause discoloration of the urine. Side effects and complications of taking aspirin include stroke caused by a burst blood vessel. The Food and Drug Administration doesn't recommend aspirin therapy for the prevention of heart attacks in people who haven't already had a heart attack, stroke or another cardiovascular condition.

- **Option A:** Sulfasalazine may discolor the urine or skin to orange-yellow color. Sulfasalazine is used to treat ulcerative colitis (UC), and to decrease the frequency of UC attacks. Sulfasalazine will not cure ulcerative colitis, but it can reduce the number of attacks you have.
- **Option B:** Levodopa may discolor the urine, saliva, or sweat to a dark brown color. Levodopa is in a class of medications called central nervous system agents. It works by being converted to dopamine in the brain. Carbidopa is in a class of medications called decarboxylase inhibitors. It works by preventing levodopa from being broken down before it reaches the brain.
- **Option C:** Phenolphthalein can discolor the urine to a red color. Phenolphthalein is often used as an indicator in acid-base titrations. For this application, it turns colorless in acidic solutions and pink in basic solutions.

32. When a pregnant woman experiences leg cramps, the correct nursing intervention to relieve the muscle cramps is:

- A. Allow the woman to exercise.
- B. Let the woman walk for a while.
- C. Let the woman lie down and dorsiflex the foot towards the knees.

D. Ask the woman to raise her legs.

Correct Answer: C. Let the woman lie down and dorsiflex the foot towards the knees

Leg cramps are caused by the contraction of the gastrocnemius (leg muscle). Thus, the intervention is to stretch the muscle by dorsiflexing the foot of the affected leg towards the knee.

- **Option A:** During pregnancy, exercise can reduce backaches, constipation, bloating, and swelling; boost the mood and energy levels; help the woman sleep better; prevent excess weight gain; and promote muscle tone, strength, and endurance.
- **Option B:** For most pregnant women, at least 30 minutes of moderate-intensity exercise is recommended on most, if not all, days of the week. Walking is a great exercise for beginners. It provides moderate aerobic conditioning with minimal stress on the joints.
- **Option D:** Elevating the legs is a great way to relieve leg pain during pregnancy. Lie back on the couch or bed and place both legs on a pillow. Raising both legs just 6-12 inches above the heart allows gravity to help pull the blood back toward the heart.

33. In a specialized pediatric unit, Nurse Archie is tasked with formulating a comprehensive and individualized care plan for Betty, a 9-year-old girl who has been recently diagnosed with cystic fibrosis (CF), a complex multisystem disorder. Given the intricate nature of CF and its wide-ranging impact on various bodily functions, which of the following considerations should Nurse Archie prioritize to ensure a holistic and effective approach to Betty's care

- A. Pulmonary secretions are abnormally thick.
- B. Elevated levels of potassium are found in the sweat.
- C. CF is an autosomal dominant hereditary disorder.
- D. Obstruction of the endocrine glands occurs.
- E. CF is associated with chronic digestive system issues.
- F. CF is linked with an increased risk for diabetes.

Correct Answer: A. Pulmonary secretions are abnormally thick.

One of the hallmark features of cystic fibrosis is the production of abnormally thick and sticky mucus, particularly affecting the lungs. This leads to chronic respiratory infections, difficulty in breathing, and a need for regular chest physiotherapy and airway clearance techniques. This aspect is crucial for Nurse Archie to incorporate into Betty's care plan.

- **Option B:** In cystic fibrosis, elevated levels of sodium and chloride, not potassium, are found in the sweat. This is a diagnostic hallmark of the disease, known as the "sweat test," but does not significantly impact the daily management of CF.
- **Option C:** Cystic fibrosis is not an autosomal dominant hereditary disorder; it is an autosomal recessive disorder. This means that a child must inherit two defective CF genes, one from each parent, to have the disease. Understanding the genetic basis is essential for family education but does not directly impact daily care.
- **Option D:** While cystic fibrosis can affect various exocrine glands (glands that secrete substances outwardly through ducts), the term "endocrine glands" refers to glands that secrete hormones directly into the bloodstream, which are not primarily affected in CF.

- **Option E:** Cystic fibrosis is associated with significant digestive system issues due to thick secretions blocking the pancreatic ducts. This can lead to malabsorption, nutritional deficiencies, and growth issues. Ensuring adequate nutrition and managing gastrointestinal symptoms are critical components of CF care.
- **Option F:** Cystic fibrosis-related diabetes (CFRD) is a type of diabetes unique to people with CF, caused partly by the thick mucus affecting the pancreas. Monitoring for signs of diabetes and managing blood glucose levels might become important as Betty grows older.

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

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

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

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

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

35. A nurse is suctioning fluids from a male client via a tracheostomy tube. When suctioning, the nurse must limit the suctioning time to a maximum of:

- A. 1 minute
- B. 5 seconds
- C. 10 seconds
- D. 30 seconds

Correct Answer: C. 10 seconds

Hypoxemia can be caused by prolonged suctioning, which stimulates the pacemaker cells in the heart. A vasovagal response may occur, causing bradycardia. The nurse must preoxygenate the client before suctioning and limit the suctioning pass to 10 seconds. It is of particular importance for patients with mechanical ventilators, endotracheal tube (ET) intubations, tracheostomies, or other airway adjuncts. Clearance of airway secretions is a normal process and is critical to the prevention of respiratory infections, atelectasis, and preservation of airway patency.

- **Option A:** Preoxygenation with 100% oxygen should be initiated prior to suctioning. This is in preparation for the hypoxia that is precipitated by suctioning, both from mechanical interruption and cessation of oxygen flow briefly. Suctioning can stimulate the vagus nerve, predisposing the patient to bradycardia and hypoxia.
- **Option B:** The catheter should be introduced to the desired depth, and then suctioning should be started. Brief, 10-second suction duration is usually recommended to avoid mucosal damage and prolonged hypoxia. Hypoxia can be profound from occlusion, interruption of oxygen supply, and prolonged suctioning.
- **Option D:** The adequacy of suctioning can be assessed by the clearance of secretions, improved breath sounds, improved air entry, good pulse oximetry readings, and improvement in respiratory distress in a patient. Complications from airway

36. A nurse is giving discharge instructions to a patient who is taking Synthroid (levothyroxine). The nurse instructs the client to notify the physician if which of the following occurs?

- A. Cold intolerance
- B. Tremors
- C. Coarse, dry hair
- D. Muscle cramps

Correct Answer: B. Tremors

Excessive doses of levothyroxine can produce signs and symptoms of hyperthyroidism which includes heat tolerance, tremors, nervousness, tachycardia, chest pain, hyperthermia, and insomnia.

- **Options A, C, & D:** These are signs of hypothyroidism.

37. Which of the following factors should be the primary focus of nursing management in a patient with acute pancreatitis?

- A. Nutrition management
- B. Fluid and electrolyte balance

C. Management of hypoglycemia

D. Pain control

Correct Answer: B. Fluid and electrolyte balance

Acute pancreatitis is commonly associated with fluid isolation and accumulation in the bowel secondary to ileus or peripancreatic edema. Fluid and electrolyte loss from vomiting is a major concern. Therefore, your priority is to manage hypovolemia and restore electrolyte balance.

- **Options A and D:** Pain control and nutrition also are important, but not priority.
- **Option C:** Patients are at risk for hyperglycemia, not hypoglycemia.

38. The mid-deltoid injection site is seldom used for I.M. injections because it:

A. Can accommodate only 1 ml or less of medication.

B. Bruises too easily.

C. Can be used only when the patient is lying down.

D. Does not readily absorb parenteral medication.

Correct Answer: A. Can accommodate only 1 ml or less of medication

The mid-deltoid injection site can accommodate only 1 ml or less of medication because of its size and location (on the deltoid muscle of the arm, close to the brachial artery and radial nerve). It is becoming increasingly important for clinicians to identify a safer intramuscular (IM) injection site in the deltoid muscle because of possible complications following the vaccine administration of IM injections.

- **Option B:** However, Cook reported that these 4 injection sites have the potential to cause injury to the subdeltoid/subacromial bursa and/or anterior branch of the axillary nerve with the arm in the anatomical position. Additionally, we showed that the axillary nerve often runs near the site 5 cm below the mid-acromion lateral border, and concluded that this site is unsuitable for IM injection in terms of the high risk for the complications related to this nerve.
- **Option C:** The deltoid muscle has been used in clinical settings because it is easy for clinicians to administer injections at this site and for patients to expose it, and it is the most commonly used site for vaccines worldwide. Four injection sites have been recommended as safer and appropriate IM injection sites in the deltoid muscle: the first site is 1 to 3 fingerbreadths (5 cm) below the mid-acromion, the second is a triangular injection site, the third is the middle third of the deltoid muscle, and the fourth is a mid-deltoid site.
- **Option D:** The following complications have been reported after the administration of IM injections: injection site reactions such as pain, erythema, and swelling due to over-or under penetration by the needle, axillary or radial nerve palsies, musculoskeletal injuries, local sepsis, and vascular complications. Therefore, it is becoming increasingly important to establish a safer site for IM injections.

39. What is the most important postoperative instruction that nurse Kate must give a client who has just returned from the operating room after receiving a subarachnoid block?

A. "Avoid drinking liquids until the gag reflex returns."

B. "Avoid eating milk products for 24 hours."

- C. "Notify a nurse if you experience blood in your urine."
- D. "Remain supine for the time specified by the physician."

Correct Answer: D. "Remain supine for the time specified by the physician."

The nurse should instruct the client to remain supine for the time specified by the physician.

- **Option A:** Local anesthetics used in a subarachnoid block don't alter the gag reflex.
- **Option B:** No interactions between local anesthetics and food occur.
- **Option C:** Local anesthetics don't cause hematuria.

40. Cleo is diagnosed with osteoporosis. Which electrolytes are involved in the development of this disorder?

- A. Calcium and sodium
- B. Calcium and phosphorous
- C. Phosphorus and potassium
- D. Potassium and sodium

Correct Answer: B. Calcium and phosphorous

In osteoporosis, bones lose calcium and phosphate salts, becoming porous, brittle, and abnormally vulnerable to fracture.

- **Option A:** Sodium increases calcium excretion and higher calcium excretion is associated with lower bone mineral density, a predictor of osteoporotic fractures.
- **Option C:** Potassium is not involved in osteoporosis. Potassium salts aid in bone health. A study, published in the journal *Osteoporosis International*, also revealed that high intake of potassium salts significantly reduces the excretion of calcium and acid in urine.
- **Option D:** Sodium, in the form of sodium chloride, elevates urinary calcium excretion and, at prevailing calcium intakes, evokes compensatory responses that may lead to increased bone remodeling and bone loss. However, potassium was inversely associated with both urinary calcium excretion and intestinal calcium absorption, yielding no significant net change in calcium balance.

41. A nurse reviews the ABG values and notes a pH of 7.50, a PCO₂ of 30 mm Hg, and an HCO₃ of 25 mEq/L. The nurse interprets these values as indicating:

- A. Respiratory acidosis uncompensated
- B. Respiratory alkalosis uncompensated
- C. Metabolic acidosis uncompensated
- D. Metabolic acidosis partially compensated.

Correct Answer: B. Respiratory alkalosis uncompensated

In respiratory alkalosis, the pH will be higher than normal and the PCO₂ will be low. Respiratory alkalosis is by definition a disease state where the body's pH is elevated to greater than 7.45 secondary to some respiratory or pulmonary process. therefore, respiratory alkalosis is a decrease in serum CO₂. While it is theoretically possible to have decreased CO₂ production, in every scenario this illness is a

result of hyperventilation where CO₂ is breathed away.

- **Option A:** The primary disturbance is an elevated arterial partial pressure of carbon dioxide (pCO₂) and a decreased ratio of arterial bicarbonate to arterial pCO₂, which results in a decrease in the pH of the blood. To compensate for the disturbance in the balance between carbon dioxide and bicarbonate (HCO₃⁻), the kidneys begin to excrete more acid in the forms of hydrogen and ammonium and reabsorb more base in the form of bicarbonate. This compensation helps to normalize the pH.
- **Option C:** Acidemia refers to a pH less than the normal range of 7.35 to 7.45. In addition, metabolic acidosis requires a bicarbonate value less than 24 mEq/L. Metabolic acidosis is due to alterations in bicarbonate, so the pCO₂ is less than 40 since it is not the cause of the primary acid-base disturbance. In metabolic acidosis, the distinguishing lab value is a decreased bicarbonate (normal range 21 to 28 mEq/L).
- **Option D:** Respiratory compensation is the physiologic mechanism to help normalize metabolic acidosis, however, compensation never completely corrects an acidemia. It is important to determine if there is adequate respiratory compensation or if there is another underlying respiratory acid-base disturbance.

42. If a male client experienced a cerebrovascular accident (CVA) that damaged the hypothalamus, the nurse would anticipate that the client has problems with:

- A. Body temperature control
- B. Balance and equilibrium
- C. Visual acuity
- D. Thinking and reasoning

Correct Answer: A. Body temperature control

The body's thermostat is located in the hypothalamus; therefore, injury to that area can cause problems of body temperature control. The spinothalamic tract is the sensory pathway for pain, temperature and crude touch that originates in the spinal cord and feeds into the ventral posterolateral nucleus of the thalamus for further processing, while the ventral posteromedial nucleus receives sensory information from the trigeminal nerve about the face.

- **Option B:** Balance and equilibrium problems are related to cerebellar damage. Cerebellar dysfunction causes balance problems and gait disorders along with difficulties in coordination resulting in ataxia, uncoordinated movements, imbalance, speech problems (dysarthria), visual problems (nystagmus) and vertigo as a part of the vestibulocerebellar system.
- **Option C:** Visual acuity problems would occur following occipital or optic nerve injury. The optic tracts relay sensory information from the contralateral visual fields. For example, the right optic tract relays sensory information from the left visual field. Also, before forming the optic tracts, some nerve fibers from each eye will travel superiorly to synapse in the SCN located within the hypothalamus. This synaptic input influences the circadian rhythm controlled by the SCN.
- **Option D:** Thinking and reasoning problems are the result of injury to the cerebrum. Cerebral cortex dysfunction can occur due to a variety of causes (lesions) like tumors, trauma, infections, autoimmune diseases, cerebrovascular accidents. The clinical features for each cause will depend on which lobe is affected. I will review some of the clinical features and their relation to each lobe.

43. The half-life of morphine is:

- A. 4 to 6 hours
- B. 2 to 4 hours
- C. 6 to 8 hours
- D. 30 minutes to 1 hour

Correct Answer: B. 2 to 4 hours

The half-life of morphine is 2 to 4 hours. Other choices are incorrect because they are either longer or shorter than the true half-life of morphine. Oral formulations are available in both immediate and extended-release for the treatment of acute and chronic pain. Pain that is more severe and not well controlled may be manageable with single or continuous doses of IV, epidural, and intrathecal formulations.

- **Option A:** Infusion dosing can vary significantly between patients and largely depends on how naive or tolerant they are to opiates. It is interesting to point out that IV morphine formulation is also commonly given intramuscularly (IM). Morphine is also available as a suppository.
- **Option C:** Morphine is considered the classic opioid analgesic with which other painkillers are compared. Like other medications in this class, morphine has an affinity for delta, kappa, and mu-opioid receptors. This drug produces the majority of its analgesic effects by binding to the mu-opioid receptor within the central nervous system (CNS) and the peripheral nervous system.
- **Option D:** The net effect of morphine is the activation of descending inhibitory pathways of the CNS as well as inhibition of the nociceptive afferent neurons of the PNS, which leads to an overall reduction of the nociceptive transmission.

44. During a visit to a community, the nurse will recommend routine screening for diabetes when the person has one or more of seven risk criteria. Which of the following persons that the nurse comes in contact with most needs to be screened for diabetes based on the seven risk criteria?

- A. A client with an HDL cholesterol level of 40 mg/dl and a triglyceride level of 300 mg/dl
- B. A woman who is at 90% of standard body weight after delivering an eight-pound baby
- C. A middle-aged Caucasian male
- D. An older client who is hypotensive

Correct Answer: A. A client with an HDL cholesterol level of 40 mg/dl and a triglyceride level of 300 mg/dl

The seven risk criteria include: greater than 120% of standard bodyweight, certain races but not including Caucasian, delivery of a baby weighing more than 9 pounds or a diagnosis of gestational diabetes, hypertensive, HDL greater than 35 mg/dl or triglyceride level greater than 250 or a triglyceride level of greater than 250 mg/dl, and, lastly, impaired glucose tolerance or impaired fasting glucose on prior testing.

- **Option B:** The American Diabetes Association (ADA) recommends opportunistic screening of adults of any age with a body mass index ≥ 25 kg/m² and additional risk factors, which include physical inactivity, a first-degree relative with diabetes, high-risk race/ethnicity, etc.
- **Option C:** Prevalence of diagnosed diabetes was highest among American Indians/Alaska Natives (14.7%), people of Hispanic origin (12.5%), and non-Hispanic blacks (11.7%), followed by

non-Hispanic Asians (9.2%) and non-Hispanic whites (7.5%).

- **Option D:** Postural hypotension occurs when something interrupts this natural response, such as dehydration, which is a common problem for people with less well-controlled diabetes as a result of frequent urination.

45. A client with schizophrenia is receiving Thorazine (chlorpromazine) 400mg twice a day. An adverse side effect of the medication is:

- A. Photosensitivity
- B. High fever
- C. Weight gain
- D. Elevated blood pressure

Correct Answer: B. High fever

- **Option B:** The client is experiencing neuroleptic malignant syndrome, which is a life-threatening adverse reaction of neuroleptics such as chlorpromazine that is characterized by extreme elevations in temperature.
- **Options A and C:** Photosensitivity and weight gain are expected side effects.
- **Option D:** Elevations in blood pressure are associated with reactions between foods containing tyramine and MAOI.

46. A client is admitted to the psychiatric unit with active psychosis. The physician diagnoses schizophrenia after ruling out several other conditions. Schizophrenia is characterized by:

- A. Loss of identity and self-esteem.
- B. Multiple personalities and decreased self-esteem.
- C. Disturbances in affect, perception, and thought content and form.
- D. Persistent memory impairment and confusion.

Correct Answer: C. Disturbances in affect, perception, and thought content and form.

The Diagnostic and Statistical Manual of Mental Disorders, 4th edition, defines schizophrenia as a disturbance in multiple psychological processes that affect thought content and form, perception, affect, sense of self, volition, relationship to the external world, and psychomotor behavior. Traditionally, symptoms have divided into two main categories: positive symptoms which include hallucinations, delusions, and formal thought disorders, and negative symptoms such as anhedonia, poverty of speech, and lack of motivation.

- **Option A:** Loss of identity sometimes occurs but is only one characteristic of the disorder. The diagnosis of schizophrenia is clinical; made exclusively after obtaining a full psychiatric history and excluding other causes of psychosis. Risk factors include birthing complications, the season of birth, severe maternal malnutrition, maternal influenza in pregnancy, family history, childhood trauma, social isolation, cannabis use, minority ethnicity, and urbanization.
- **Option B:** Multiple personalities typify multiple personality disorder, a dissociative personality disorder. Mood disorders are commonly accompanied by increased or decreased self-esteem.

Most patients with personality disorders often have little to no insight in regards to their maladaptive behavior. They rarely voluntarily present with “personality disorder” or “personality issues” as their chief complaint. More often than not, the patient will present secondarily to psychiatric sequelae of personality disorders. Such sequelae include chronic depression, interpersonal relationship hardships, unsatisfactory academic history, and poor vocational performance.

- **Option D:** Schizophrenia doesn’t cause a disturbance in sensorium, although the client may exhibit confusion, disorientation, and memory impairment during the acute phase. Due to its relative complexity and heterogeneity, the etiology and pathophysiological mechanisms are not fully understood. Despite a low prevalence, schizophrenia’s global burden of disease is immense. Over half of the patients have significant comorbidities, both psychiatric and medical, making it one of the leading causes of disability worldwide.

47. Ms. Valencia develops the standards to be followed. Among the following standards, which is considered as a structure standard?

- A. The patients verbalized satisfaction with the nursing care received.
- B. Rotation of duty will be done every four weeks for all patient care personnel.
- C. All patients shall have their weights recorded.
- D. Patients shall answer the evaluation form before discharge.

Correct Answer: B. Rotation of duty will be done every four weeks for all patient care personnel.

Structure standards include management systems, facilities, equipment, materials needed to deliver care to patients. Rotation of duty is a management system. A nursing care standard is a descriptive statement of desired quality against which to evaluate nursing care. It is a guideline. A guideline is a recommended path to safe-conduct, an aid to professional performance.

- **Option A:** Standards give direction and provide guidelines for the performance of nursing staff. Standards provide a baseline for evaluating the quality of nursing care. Standards statement must be broad enough to apply to a wide variety of settings.
- **Option C:** Standards must be understandable and stated in unambiguous terms. Standards may help to determine the degree to which standards of nursing care maintained and take necessary corrective action in time.
- **Option D:** Standards may help to improve the basis for decision-making and devise an alternative system for delivering nursing care. Standards must be reviewed and revised periodically. Standards may be directed towards ideal (ie, optional) standards or may only specify the minimal care that must be attained (ie, minimum standard).

48. The client joins a support group and frequently preaches against abuse, is demonstrating the use of:

- A. Denial
- B. Reaction formation
- C. Rationalization
- D. Projection

Correct Answer: B. Reaction formation

Reaction formation is the adoption of behavior or feelings that are exactly opposite of one's true emotions. Reaction formation reduces anxiety by taking up the opposite feeling, impulse, or behavior. An example of reaction formation would be treating someone you strongly dislike in an excessively friendly manner in order to hide your true feelings.

- **Option A:** Denial is a refusal to accept a painful reality. Denial is an outright refusal to admit or recognize that something has occurred or is currently occurring. People living with drug or alcohol addiction often deny that they have a problem, while victims of traumatic events may deny that the event ever occurred.
- **Option C:** Rationalization is attempting to justify one's behavior by presenting reasons that sound logical. Rationalization is a defense mechanism that involves explaining an unacceptable behavior or feeling in a rational or logical manner, avoiding the true reasons for the behavior.
- **Option D:** Projection is attributing one's behaviors and feelings to another person. Projection is a defense mechanism that involves taking our own unacceptable qualities or feelings and ascribing them to other people. For example, if you have a strong dislike for someone, you might instead believe that they do not like you. Projection works by allowing the expression of the desire or impulse, but in a way that the ego cannot recognize, therefore reducing anxiety.

49. Which of the following is the appropriate meaning of CBR?

- A. Cardiac Board Room
- B. Complete Bathroom
- C. Complete Bed Rest
- D. Complete Board Room

Correct Answer: C. Complete Bed Rest

CBR means complete bed rest. For more abbreviations, please see this post. Standardization and uniform use of codes, symbols, and abbreviations can improve communication and understanding between health care practitioners, leading to safer and more effective care for patients.

- **Option A:** When developing lists, hospitals need to ensure that abbreviations on the approved list are not also on the do-not-use list, and vice versa. In addition, abbreviations can have only one meaning within the entire organization—for example, the abbreviation NKDA could mean “no known drug allergies,” or it could mean “nonketotic diabetic acidosis,” but it cannot have both meanings in an organization.
- **Option B:** Appropriate use of abbreviations is particularly important. Numerous studies have focused on health care practitioners' understanding and interpretation of abbreviations in medical documents, such as medical records, discharge summaries, and medication orders. Findings indicate that it is not uncommon for practitioners to have difficulty understanding the abbreviations used in their hospitals.
- **Option D:** To prevent misunderstandings and potential risks to patient safety, requires hospitals to establish lists for approved and do-not-use abbreviations and monitor for appropriate abbreviation use. There are resources for identifying abbreviations for the do-not-use list, such as the Institute for Safe Medication Practices (ISMP), which publishes a list of dangerous abbreviations not to be used due to frequent misinterpretation and associated medication errors.

50. Which of the following should the nurse expect to note as a frequent complication for a child with congenital heart disease?

- A. Susceptibility to respiratory infection
- B. Bleeding tendencies
- C. Frequent vomiting and diarrhea
- D. Seizure disorder

Correct Answer: A. Susceptibility to respiratory infection

Children with congenital heart disease are more prone to respiratory infections. Children with congenital heart disease (CHD) are at risk for increased morbidity from viral lower respiratory tract infections because of anatomical cardiac lesions that can worsen an already compromised respiratory status.

- **Option B:** It has been recognized that patients with Cyanotic Congenital Heart Disease (CCHD) show significant bleeding tendency which can be secondary to coagulopathies in these patients. Some coagulation abnormalities are thrombocytopenia, factor deficiencies, fibrinolysis, and Disseminated Intravascular Coagulation (DIC).
- **Option C:** Vomiting and diarrhea are most likely experienced with a heart attack. Women are somewhat more likely than men to experience some of the other common symptoms, particularly shortness of breath, nausea/vomiting, and back or jaw pain.
- **Option D:** Although neurological morbidity has been consistently described in the congenital heart disease (CHD) population, 1 no studies to date have examined the long-term risk of epilepsy in subjects with CHD compared with the general population.

51. A client with nontropical sprue has an exacerbation of symptoms. Which meal selection is responsible for the recurrence of the client's symptoms?

- A. Mixed fruit and yogurt
- B. Cream of tomato soup and crackers
- C. Baked potato with sour cream and chives
- D. Tossed salad with oil and vinegar dressing

Correct Answer: B. Cream of tomato soup and crackers

- Option B: The symptoms of nontropical sprue and celiac are caused by the ingestion of gluten, which is found in wheat, oats, barley, and rye. Creamed soup and crackers contain gluten.
- Options A, C, and D: These food items do not contain gluten and can be eaten by the client.

52. When assessing a newborn whose mother consumed alcohol during the pregnancy, the nurse would assess for which of these clinical manifestations?

- A. Wide-spaced eyes, smooth philtrum, flattened nose
- B. Strong tongue thrust, short palpebral fissures, simian crease
- C. Negative Babinski sign, hyperreflexia, deafness
- D. Shortened limbs, increased jitteriness, constant sucking

Correct Answer: A. Wide-spaced eyes, smooth philtrum, flattened nose

The nurse should anticipate that the infant may have fetal alcohol syndrome and should assess for signs and symptoms of it. These include the characteristics listed in choice A. Fetal alcohol syndrome is a condition in a child that results from alcohol exposure during the mother's pregnancy. Fetal alcohol syndrome causes brain damage and growth problems. The problems caused by fetal alcohol syndrome vary from child to child, but defects caused by fetal alcohol syndrome are not reversible.

- **Option B:** A single palmar crease is a single line that runs across the palm of the hand. People most often have 3 creases in their palms. A single palmar crease appears in about 1 out of 30 people. Males are twice as likely as females to have this condition. Some single palmar creases may indicate problems with development and be linked with certain disorders.
- **Option C:** Hyperreflexia is a sign of upper motor neuron damage and is associated with spasticity and a positive Babinski sign. In infants with at CST which is not fully myelinated the presence of a Babinski sign in the absence of other neurological deficits is considered normal up to 24 months of age.
- **Option D:** Achondroplasia is the most common form of short-limb dwarfism. It is an autosomal dominant disorder caused by a mutation in the gene that creates the cells (fibroblasts) which convert cartilage to bone. This means, if the gene is passed on by one parent, the child will have achondroplasia.

53. A 45-year-old patient in the intensive care unit, who was recently involved in a severe car accident, has multiple fractures and internal injuries. The patient has a history of chronic back pain and has been on long-term opioid therapy. The patient is currently on a pump set to deliver a basal rate of 10 ml per hour of morphine plus PRN doses for breakthrough pain. The nurse also notes that the patient has been frequently pressing the PRN button for additional relief. Given this scenario, which observation indicates that the pump may not be functioning correctly?

- A. The client complains of discomfort at the IV insertion site and has slight redness around the area.
- B. The client states "I just can't get relief from my pain," even after pressing the PRN button multiple times.
- C. The level of the drug is 100 ml at 8 AM and is 80 ml at noon, despite the patient's frequent requests for PRN doses.
- D. The level of the drug is 100 ml at 8 AM and is 50 ml at noon.
- E. The patient's respiratory rate has decreased to 8 breaths per minute.
- F. The patient's blood pressure has dropped significantly since the last reading.

Correct Answer: C. The level of the drug is 100 ml at 8 AM and is 80 ml at noon

The pump is set to deliver a basal rate of 10 ml per hour. From 8 AM to noon, which is 4 hours, the pump should have delivered 40 ml (10 ml x 4 hours). If the level of the drug was 100 ml at 8 AM, it should be 60 ml at noon (100 ml – 40 ml). The fact that it's 80 ml at noon indicates that only 20 ml has been delivered over 4 hours, suggesting the pump may not be functioning correctly, especially given the patient's frequent requests for PRN doses.

54. When working with children who have been sexually abused by a family member it is important for the nurse to understand that these victims usually

are overwhelmed with feelings of:

- A. Humiliation
- B. Confusion
- C. Self blame
- D. Hatred

Correct Answer: C. Self blame

These children often have nonsexual needs met by individuals and are powerless to refuse. Ambivalence results in self-blame and also guilt. Sexual abuse can cause serious physical and emotional harm to children both in the short term and the long term. In the short term, children may suffer health issues, such as sexually transmitted infections, physical injuries, and unwanted pregnancies.

- **Option A:** In the long term, people who have been sexually abused are more likely to suffer from depression, anxiety, eating disorders, and post-traumatic stress disorder (PTSD). They're also more likely to self-harm, become involved in criminal behavior, misuse drugs, and alcohol, and commit suicide as young adults.
- **Option B:** The "child sexual abuse accommodation syndrome", proposed by Summit (69), has been invoked by a number of researchers to explain why children's disclosures are often delayed following abuse and why disclosure is sometimes problematic or retracted. According to its author, the typical pattern of events is as follows: the child is forced to keep the sexual abuse a secret and initially feels trapped and helpless. These feelings of helplessness and the child's fear that no one will believe the disclosure of abuse lead to accommodative behavior. If the child does disclose, failure of family and professionals to protect and support the child adequately, augment the child's distress and may lead to retraction of the disclosure.
- **Option D:** Child survivors of sexual abuse are at increased risk for anxiety, inappropriate sexual behavior and preoccupations, anger, guilt, shame, depression, posttraumatic stress disorder (PTSD), and other emotional and behavioral problems throughout their life span. Research shows that survivors of child sexual abuse are more likely to experience social and/or health problems in adulthood, such as alcohol problems, use of illicit drugs, suicide attempts, and marriage/family problems.

55. When preparing to listen to the fetal heart rate at 12 weeks' gestation, the nurse would use which of the following?

- A. Stethoscope placed midline at the umbilicus.
- B. Doppler placed midline at the suprapubic region.
- C. Fetoscope placed midway between the umbilicus and the xiphoid process.
- D. External electronic fetal monitor placed at the umbilicus.

Correct Answer: B. Doppler placed midline at the suprapubic region

At 12 weeks gestation, the uterus rises out of the pelvis and is palpable above the symphysis pubis. The Doppler intensifies the sound of the fetal pulse rate so it is audible. The uterus has merely risen out of the pelvis into the abdominal cavity and is not at the level of the umbilicus.

- **Option A:** The fetal heart rate at this age is not audible with a stethoscope. Exciting circulatory developments continue at 12 weeks when baby-to-be's bone marrow begins busily producing blood cells. By 17 weeks, the fetal brain begins to regulate the heartbeat in preparation for supporting a baby in the outside world. (Up until this point, the heart has been beating spontaneously.) In three more weeks, by around week 20, the mother may hear her baby's heartbeat with a stethoscope.
- **Option C:** The uterus at 12 weeks is just above the symphysis pubis in the abdominal cavity, not midway between the umbilicus and the xiphoid process. At 12 weeks the FHR would be difficult to auscultate with a fetoscope. A fetoscope, or a fetal stethoscope, works much like a regular stethoscope except that it has a bell-shaped end that magnifies sound waves from the fetal heartbeat in order to make them audible. One can usually hear a fetal heartbeat with the stethoscope starting around 20 weeks of pregnancy.
- **Option D:** Although the external electronic fetal monitor would project the FHR, the uterus has not risen to the umbilicus at 12 weeks.

56. Tonometry is performed on the client with a suspected diagnosis of glaucoma. The nurse analyzes the test results as documented in the client's chart and understands that normal intraocular pressure is:

- A. 2-7 mmHg
- B. 10-21 mmHg
- C. 22-30 mmHg
- D. 31-35 mmHg

Correct Answer: B. 10-21 mmHg

Tonometry is the method of measuring intraocular fluid pressure using a calibrated instrument that indents or flattens the corneal apex. Pressures between 10 and 21 mmHg are considered within the normal range. Tonometry is a common procedure employed by ophthalmologists to measure intraocular pressure (IOP) using a calibrated instrument. Instruments measuring intraocular pressure assume the eye is a closed globe with uniform pressure distributed throughout the anterior chamber and vitreous cavity.

- **Option A:** 2-7 mmHg is low intraocular pressure. Tonometry is used to measure intraocular pressure in open-angle glaucoma, acute closed-angle glaucoma, in the setting of ocular trauma without globe rupture, and before and after ophthalmic surgical procedures.
- **Option C:** 22-30 mmHg indicates an increased intraocular pressure. Measurement of intraocular pressure is important in the screening and monitoring of glaucoma, a progressive optic neuropathy that can be slowed with intraocular pressure reduction. Intraocular pressure is the only modifiable risk factor for glaucoma progression at this time
- **Option D:** 31-35 mmHg is high intraocular pressure. Tonometry is also used to evaluate for acutely elevated intraocular pressure as seen in acute-angle closure glaucoma and following ocular trauma. Acute angle-closure glaucoma is an ophthalmic emergency requiring immediate intervention to lower IOP and avoid vision loss.

57. Before giving a repeat dose of magnesium sulfate to a pre-eclamptic patient, the nurse should assess the patient's condition. Which of the following conditions will require the nurse to temporarily suspend a repeat dose of magnesium sulfate?

- A. 100 cc. urine output in 4 hours
- B. Knee jerk reflex is (+)2
- C. Serum magnesium level is 10mEq/L.
- D. Respiratory rate of 16/min

Correct Answer: A. 100 cc. urine output in 4 hours

The minimum urine output expected for a repeat dose of MgSO₄ is 30 cc/hr. If in 4 hours the urine output is only 100 cc this is low and can lead to poor excretion of Magnesium with a possible cumulative effect, which can be dangerous to the mother.

- **Option B:** As the plasma levels increase the muscle weakness becomes more pronounced and there is a marked reduction and then loss of deep tendon reflexes eventually leading to flaccid paralysis and respiratory arrest.
- **Option C:** Magnesium sulfate is the ideal drug for the prevention and treatment of eclampsia, and, indeed, its universal use is recommended by the World Health Organization. Nevertheless, the best regimen remains to be established and there is still no evidence that serum magnesium levels between 4 and 7 mEq/L, established in a retrospective study and still considered therapeutic, represent a guarantee that pregnant women with hypertensive disorders are protected against eclampsia.
- **Option D:** Magnesium sulfate has CNS and respiratory depressant effects. It acts peripherally, causing vasodilation; moderate doses cause flushing and sweating, whereas high doses cause hypotension. It prevents or controls seizures by blocking neuromuscular transmission.

58. Which of the following heart muscle diseases is unrelated to other cardiovascular diseases?

- A. Cardiomyopathy
- B. Coronary artery disease
- C. Myocardial infarction
- D. Pericardial effusion

Correct Answer: A. Cardiomyopathy

Cardiomyopathy isn't usually related to an underlying heart disease such as atherosclerosis. The etiology in most cases is unknown. Although most cases are idiopathic, a number of conditions (e.g. coronary artery disease, wet beriberi), infections (e.g., Coxsackie B virus, Chagas disease), and substances (e.g. heavy drinking, cocaine) have been identified as causes.

- **Option B:** The hallmark of the pathophysiology of CAD is the development of atherosclerotic plaque. Plaque is a build-up of fatty material that narrows the vessel lumen and impedes the blood flow. Growth factors released activate smooth muscles, which also take up oxidized LDL particles and collagen and deposit along with activated macrophages and increase the population of foam cells. This process leads to the formation of subendothelial plaque.
- **Option C:** MI is directly related to atherosclerosis. Smoking and abnormal apolipoprotein ratio showed the strongest association with acute myocardial infarction. The increased risk associated with diabetes and hypertension were found to be higher in women, and the protective effect of exercise and alcohol was also found to be higher in women.

- **Option D:** Pericardial effusion is the escape of fluid into the pericardial sac, a condition associated with pericarditis and advanced heart failure. The fluid accumulation increases pressure in the pericardial sac leading to the compression of the heart, especially the right heart due to a thinner wall. Impaired diastolic filling of the right heart causes venous congestion.

59. Which neurotransmitter is responsible for many of the functions of the frontal lobe?

- A. Dopamine
- B. GABA
- C. Histamine
- D. Norepinephrine

Correct Answer: A. Dopamine

The frontal lobe primarily functions to regulate thinking, planning, and affect. Dopamine is known to circulate widely throughout this lobe, which is why it's such an important neurotransmitter in schizophrenia. Dopamine receptors play an essential role in daily life functions. This hormone and its receptors affect movement, emotions and the reward system in the brain.

- **Option B:** Gamma-aminobutyric acid (GABA) is an amino acid that serves as the primary inhibitory neurotransmitter in the brain and a major inhibitory neurotransmitter in the spinal cord. It exerts its primary function in the synapse between neurons by binding to postsynaptic GABA receptors which modulate ion channels, hyperpolarizing the cell and inhibiting the transmission of an action potential.
- **Option C:** Histamine regulates a variety of physiological functions by playing a key role in the inflammatory response of the body. It also has a vital role in various pathomechanisms of inflammatory diseases, which have led to the identification of novel histamine receptors over the years and greater recognition of its functions in the immune system.
- **Option D:** The adrenergic receptors linked to blood vessels have an especially high affinity for norepinephrine relative to the other amines. Further musculoskeletal actions of catecholamines include enhanced contractility of cardiac muscle (via beta-1 receptors), contraction of the pupillary dilator (via alpha-1 receptors), piloerection (via alpha-1 receptors), and relaxation of smooth muscle in the gastrointestinal tract, urinary tract, and bronchioles (via beta-2 receptors).

60. Which of the following strategies is not effective for the prevention of Lyme disease?

- A. Insect repellent on the skin and clothes when in a Lyme endemic area.
- B. Long sleeved shirts and long pants.
- C. Prophylactic antibiotic therapy prior to anticipated exposure to ticks.
- D. Careful examination of skin and hair for ticks following anticipated exposure.

Correct Answer: C. Prophylactic antibiotic therapy prior to anticipated exposure to ticks.

Prophylactic use of antibiotics is not indicated to prevent Lyme disease. Antibiotics are used only when symptoms develop following a tick bite. Specific treatment is dependent upon the age of the patient and stage of the disease. For patients older than 8 years of age with early, localized disease, doxycycline is

recommended for 10 days. Patients under the age of 8 should receive amoxicillin or cefuroxime for 14 days to avoid the potential for tooth staining caused by tetracycline use in young children.

- **Option A:** Insect repellent should be used on skin and clothing when exposure is anticipated. While there are many repellents on the market, it is best to avoid them as the risk of harm is greater than any benefit. If one is going to use a repellent, DEET is the one product that is safe, however, it is not 100% effective.
- **Option B:** Clothing should be designed to cover as much exposed area as possible to provide an effective barrier. The outdoors person should be told to wear appropriate garments and be familiar with the skin features of the tick bite. The nurse should educate the patient on how to remove the tick from the skin and when to seek medical assistance.
- **Option D:** Close examination of skin and hair can reveal the presence of a tick before a bite occurs. Nurses should educate parents on how to inspect their children for ticks at the end of an outdoor event, in an endemic area. Pets can also develop Lyme disease and carry the tick. Hence, pet owners should examine their pets on a regular basis and remove the tick. There is no risk of acquiring Lyme disease by removing the tick.

61. What equipment would be necessary to complete an evaluation of cranial nerves 9 and 10 during a physical assessment?

- A. A cotton ball
- B. A penlight
- C. An ophthalmoscope
- D. A tongue depressor and flashlight

Correct Answer: D. A tongue depressor and flashlight

Cranial nerves 9 and 10 are the glossopharyngeal and vagus nerves. The gag reflex would be evaluated. The 9th (glossopharyngeal) and 10th (vagus) cranial nerves are usually evaluated together. Whether the palate elevates symmetrically when the patient says “ah” is noted. If one side is paretic, the uvula is lifted away from the paretic side. A tongue blade can be used to touch one side of the posterior pharynx, then the other, and symmetry of the gag reflex is observed; bilateral absence of the gag reflex is common among healthy people and may not be significant.

- **Option A:** For the 5th (trigeminal) nerve, the 3 sensory divisions (ophthalmic, maxillary, mandibular) are evaluated by using a pinprick to test facial sensation and by brushing a wisp of cotton against the lower or lateral cornea to evaluate the corneal reflex. If facial sensation is lost, the angle of the jaw should be examined; sparing of this area (innervated by spinal root C2) suggests a trigeminal deficit. A weak blink due to facial weakness (eg, 7th cranial nerve paralysis) should be distinguished from depressed or absent corneal sensation, which is common in contact lens wearers. A patient with facial weakness feels the cotton wisp normally on both sides, even though blink is decreased.
- **Option B:** A penlight provides a source of light and has become the most common used tool to assess pupil diameter. Asymmetry of pupil constriction in response to light means one pupil constricts and the other remains dilated or constricts more slowly. It may indicate dynamic anisocoria or a Marcus Gunn pupil, a relative afferent pupillary defect (RAPD), or temporal lobe herniation in the brain.
- **Option C:** The eye can be examined with routine equipment, including a standard ophthalmoscope; thorough examination requires special equipment and evaluation by an ophthalmologist. Ophthalmoscopy (examination of the posterior segment of the eye) can be done

directly by using a handheld ophthalmoscope or with a handheld lens in conjunction with the slit lamp biomicroscope.

62. The client with acute renal failure has a serum potassium level of 5.8 mEq/L. The nurse would plan which of the following as a priority action?

- A. Allow an extra 500 ml of fluid intake to dilute the electrolyte concentration.
- B. Encourage increased vegetables in the diet.
- C. Place the client on a cardiac monitor.
- D. Check the sodium level.

Correct Answer: C. Place the client on a cardiac monitor.

The client with hyperkalemia is at risk for developing cardiac dysrhythmias and cardiac arrest. Because of this, the client should be placed on a cardiac monitor. Observe ECG or telemetry for changes in rhythm. Changes in electromechanical function may become evident in response to progressing renal failure and accumulation of toxins and electrolyte imbalance. Peaked T wave, wide QRS, prolonged PR interval is usually associated with hyperkalemia.

- **Option A:** Fluid intake is not increased because it contributes to fluid overload and would not affect the serum potassium level significantly. Monitor BP and HR. Fluid volume excess, combined with hypertension (common in renal failure) and effects of uremia, increases cardiac workload and can lead to cardiac failure. In ARF, cardiac failure is usually reversible.
- **Option B:** Vegetables are a natural source of potassium in the diet, and their use would not be increased. During the oliguric phase, hyperkalemia is present but often shifts to hypokalemia in the diuretic or recovery phase. Any potassium value associated with ECG changes requires intervention. Note: A serum level of 6.5 mEq or higher constitutes a medical emergency.
- **Option D:** The nurse may also assess the sodium level because sodium is another electrolyte commonly measured with the potassium level. However, this is not a priority action at this time. Investigate reports of muscle cramps, numbness of fingers, muscle twitching, hyperreflexia. Neuromuscular indicators of hypocalcemia, which can also affect cardiac contractility and function.

63. A male client with acute pyelonephritis receives a prescription for co-trimoxazole (Septra) P.O. twice daily for 10 days. Which finding best demonstrates that the client has followed the prescribed regimen?

- A. Urine output increases to 2,000 ml/day.
- B. Flank and abdominal discomfort decrease.
- C. Bacteria are absent in urine culture.
- D. The red blood cell (RBC) count is normal.

Correct Answer: C. Bacteria are absent on urine culture.

Co-trimoxazole is a sulfonamide antibiotic used to treat urinary tract infections. Therefore, the absence of bacteria on urine culture indicates that the drug has achieved its desired effect. The initial selection of antibiotics will be empiric and should be based on the local antibiotic resistance. Antibiotic therapy should then be adjusted based on the results of the urine culture.

- **Option A:** Co-trimoxazole doesn't affect urine output. Most uncomplicated cases of acute pyelonephritis will be caused by E. coli for which patients can be treated with oral cephalosporins or TMP-SMX for 14 days. Complicated cases of acute pyelonephritis require intravenous (IV) antibiotic treatment until there are clinical improvements.
- **Option B:** Although flank pain may decrease as the infection resolves, this isn't a reliable indicator of the drug's effectiveness. When diagnosing acute pyelonephritis, keeping the differential broad is a wise idea. Physicians may consider other disorders as well when patients present with fever, flank pain, and costovertebral angle tenderness.
- **Option D:** Follow-up for non-admitted patients for resolution of symptoms should be in 1 to 2 days. Follow-up urine culture results should be obtained only in patients who have a complicated course and are usually not needed in healthy, non-pregnant women.

64. In a quaint rural town nestled amidst sprawling meadows, there resides a small yet well-equipped community healthcare facility. It's a serene spring morning when Nurse Abigail receives a call regarding the impending admission of an 8-year-old boy, Oliver. Oliver had been suffering from a sore throat about two weeks ago, which seemed to resolve spontaneously. However, over the past few days, he has been feeling progressively fatigued, and his mother noticed puffiness around his eyes and swollen ankles. As the day unfolds, Oliver, accompanied by his apprehensive parents, arrives at the healthcare facility. The chief physician, Dr. Mitchell, after a preliminary examination, suspects acute glomerulonephritis (AGN) given the child's recent history of a throat infection and current symptoms. He decides to orchestrate a battery of investigations to ascertain the diagnosis. Nurse Abigail, poised and diligent, sets forth to educate Oliver's parents about the possible etiology of AGN while awaiting the investigative results. She elaborates on certain conditions and infections that could potentially culminate in AGN, hoping to provide the distressed parents with some context regarding their child's ailment. Dr. Mitchell, keen on enriching the clinical acumen of his medical team, gathers his young resident physicians and nurses, including Nurse Abigail, for a teaching session. He propounds the following question to incite a discussion on the common antecedents of AGN, focusing on identifying the most common cause: Which of the following conditions most commonly causes acute glomerulonephritis?

- A congenital condition leading to renal dysfunction
- Prior infection with group A Streptococcus within the past 10-14 days
- Viral infection of the glomeruli
- Nephrotic syndrome
- Systemic Lupus Erythematosus (SLE)
- IgA Nephropathy (Berger's Disease)
- Uncontrolled Hypertension

Correct Answer: B. Prior infection with group A Streptococcus within the past 10-14 days.

Acute post-streptococcal glomerulonephritis (APSGN) is a well-recognized sequelae to a prior group A Streptococcus infection, typically occurring within 10-14 days post-infection, making it the most common cause among the listed options.

- **Option A:** A congenital condition may lead to chronic renal dysfunction, but it's not a common cause of acute glomerulonephritis.
- **Option C:** Viral infections can contribute to glomerular diseases, however, they are not as common.
- **Option D:** Nephrotic syndrome is a consequence of various glomerular diseases rather than a cause of acute glomerulonephritis.
- **Option E:** Systemic Lupus Erythematosus (SLE) can lead to lupus nephritis, which is a form of glomerulonephritis, but it's not as common a cause as group A Streptococcus infection.
- **Option F:** IgA Nephropathy (Berger's Disease) is a type of glomerulonephritis but not the most common cause when compared to APSGN.
- **Option G:** Uncontrolled hypertension can cause renal damage over time, but it's not a typical cause of acute glomerulonephritis in the context provided.

65. A client is prescribed with guaifenesin (Mucinex). The nurse determines that the client understands the proper administration of this medication if the client states that he or she will:

- A. Limit oral fluid intake
- B. Take the medication with meals only
- C. Take an additional dose once fever and cough persist
- D. Drink extra fluids while taking this medication

Correct Answer: D. Drink extra fluids while taking this medication

Guaifenesin is an expectorant. Drink extra fluids to help loosen the congestion and lubricate the throat while taking this medication.

- **Option A:** Fluids are needed to loosen the secretions.
- **Option B:** The medication does not have to be taken with meals.
- **Option C:** Additional doses should not be taken without the prescription of the doctor.

66. Lisa, a client with altered urinary function, is under the care of nurse Tine. Which intervention is appropriate to include when developing a plan of care for Lisa who is experiencing urinary dribbling?

- A. Inserting an indwelling Foley catheter.
- B. Having the client perform Kegel exercises.
- C. Keeping the skin clean and dry.
- D. Using pads or diapers on the client.

Correct Answer: B. Having the client perform Kegel exercises.

Kegel exercises, which help strengthen the muscles in the perineal area, are used to maintain urinary continence. To perform these exercises, the client tightens pelvic floor muscles for 4 seconds 10 times at least 20 times each day, stopping and starting the urinary flow.

- **Option A:** Inserting an indwelling Foley catheter increases the risk for infection and should be avoided. Begin bladder retraining per protocol when appropriate (fluids between certain hours, digital stimulation of trigger area, contraction of abdominal muscles, Credé's maneuver).
- **Option C:** Proper perineal hygiene decreases the risk of skin irritation or breakdown and the development of ascending infection. The nurse should encourage the client to develop a toileting schedule based on normal urinary habits. However, suggesting bathroom use every 8 hours may be too long an interval to wait.
- **Option D:** Pads or diapers should be used only as a resort. Refer to the urinary continence specialist as indicated. Collaboration with specialists is helpful for developing an individual plan of care to meet a patient's specific needs using the latest techniques, continence products.

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

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

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

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

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

68. In applying the principles of pain treatment, what is the first consideration?

- A. Treatment is based on client goals.
- B. A multidisciplinary approach is needed.
- C. The client must believe in perceptions of own pain.
- D. Drug side effects must be prevented and managed.

Correct Answer: C. The client must be believed about perceptions of own pain.

The client must be believed and his or her experience of pain must be acknowledged as valid. The data gathered via client reports can then be applied to other options in developing the treatment plan. Assist patients to develop a daily routine to support achievement and, where necessary, readjustment of habits and roles according to individual capacity and life situation.

- **Option A:** Use a person-centered perspective to formulate collaborative intervention strategies consistent with a physical therapy perspective. Understand the need to involve family members and significant others including employers where appropriate.
- **Option B:** Demonstrate an ability to integrate the patient assessment into an appropriate management plan using the concepts and strategies of clinical reasoning.
- **Option D:** Understand the principles of an effective therapeutic patient/professional relationship to reduce pain, promote optimal function and reduce disability through the use of active and where appropriate, passive pain management approaches.

69. The nurse is performing a mental status examination on a male client diagnosed with a subdural hematoma. This test assesses which of the following?

- A. Cerebellar function
- B. Intellectual function
- C. Cerebral function
- D. Sensory function

Correct Answer: C. Cerebral function

The mental status examination assesses functions governed by the cerebrum. Some of these are orientation, attention span, judgment, and abstract reasoning. Cerebrum is the largest part of the brain and is composed of right and left hemispheres. It performs higher functions like interpreting touch, vision, and hearing, as well as speech, reasoning, emotions, learning, and fine control of movement.

- **Option A:** Cerebellar function testing assesses coordination, equilibrium, and fine motor movement. Cerebellum is located under the cerebrum. Its function is to coordinate muscle movements, maintain posture, and balance.
- **Option B:** Intellectual functioning isn't the only cerebral activity. When assessing intelligence to make decisions about individuals, attention has been paid almost exclusively to general intelligence, as reflected in a composite intelligence quotient, or IQ. That is, a single number, embodied in the IQ, is used to portray an individual's mental ability.
- **Option D:** Sensory function testing involves assessment of pain, light-touch sensation, and temperature discrimination. Assessment of sensory function helps to identify the different pathways for light touch, proprioception, vibration, and pain. Use a pinprick to evaluate pain sensation.

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

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

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

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

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

71. Which of the following diagnostic tests may be performed to determine if a client has gastric cancer?

- A. Barium enema
- B. Colonoscopy
- C. Gastroscopy
- D. Serum chemistry levels

Correct Answer: C. Gastroscopy

A gastroscopy will allow direct visualization of the tumor. Patients presenting with any symptoms suspicious for gastric cancer should undergo an upper endoscopy over barium study (except for limited plastic presenting as leather-flask appearance). Although upper endoscopy is more invasive and costly, it offers tissue diagnosis by direct biopsy of esophageal, gastric, or duodenal lesions.

- **Option A:** A barium enema is a radiographic (X-ray) examination of the lower gastrointestinal (GI) tract. The large intestine, including the rectum, is made visible on X-ray film by filling the colon with a liquid suspension called barium sulfate (barium). Barium highlights certain areas in the body to create a clearer picture.
- **Option B:** A colonoscopy would help diagnose colon cancer. Synchronous or metachronous colorectal cancer is reportedly detected in approximately 1% of patients with gastric cancer. Therefore, screening colonoscopy before surgical interventions for the stomach is now well

established.

- **Option D:** Serum chemistry levels don't contribute data useful to the assessment of gastric cancer. Staging pre-operative evaluations include chest and abdominal imaging to rule out metastasis and to determine surgical resectability. Abdominopelvic computerized tomography is performed early to rule out gross metastatic disease but does not accurately assess T, N, and small peritoneal metastases with an overall accuracy of 42% to 82%.

72. Which pattern of nursing care involves the care given by a group of paraprofessional workers led by a professional nurse who takes care of patients with the same disease conditions and is located geographically near each other?

- A. Case method
- B. Modular nursing
- C. Nursing case management
- D. Team nursing

Correct Answer: B. Modular nursing

Modular nursing is a variant of team nursing. The difference lies in the fact that the members in modular nursing are paraprofessional workers. Modular Nursing is a modification of team nursing and focuses on the patient's geographic location for staff assignments; the unit is divided into groups referred to as modules – also called districts or pods.

- **Option A:** In case method, the nurse cares for one patient whom the nurse cares for exclusively. The Case Method evolved into what is now called private duty nursing. It was the first type of nursing care delivery system.
- **Option C:** Nursing case management provides a continuum of health care services for defined groups of patients. Its literature is multidisciplinary, emphasizing clinical specialties, case management methodology, and the health care system. Case management is a care delivery model designed to coordinate and manage patient care across the continuum of health care systems.
- **Option D:** The goal of team nursing is for a team to work democratically. In the ideal team, an RN is assigned as a Team Leader for a group of patients. The Team Leader has a core of staff reporting to her, and together they work to disseminate the care activities.

73. The nurse is taking the history of a client who has had benign prostatic hyperplasia in the past. To determine whether the client currently is experiencing difficulty, the nurse asks the client about the presence of which of the following early symptoms?

- A. Urge incontinence
- B. Nocturia
- C. Decreased force in the stream of urine
- D. Urinary retention

Correct Answer: C. Decreased force in the stream of urine

Decreased force in the stream of urine is an early sign of BPH. The stream later becomes weak and dribbling. The client then may develop hematuria, frequency, urgency, urge incontinence, and nocturia. If untreated, complete obstruction and urinary retention can occur. Men with BPH are likely to report predominant symptoms of nocturia, poor stream, hesitancy, or prolonged micturition.

- **Option A:** Lower urinary tract symptoms can be divided into storage (frequency, nocturia, urgency) and voiding symptoms (stream, straining, hesitancy, prolonged micturition) and can help establish other causes of urinary symptoms such as urinary tract infections/overactive bladder, in addition to determining the site affected (bladder vs. prostate).
- **Option B:** Red flags help point to more sinister causes of urinary symptoms such as bladder/prostate cancer, neurology such as cauda equina, or chronic high-pressure retention (which can lead to silent renal failure). The presence of these can be established by asking about visible haematuria/bone pain/weight loss, neurology, and nocturnal enuresis/incontinence, respectively.
- **Option D:** The development of benign prostatic hyperplasia is characterized by stromal and epithelial cell proliferation in the prostate transition zone (surrounding the urethra), this leads to compression of the urethra and the development of bladder outflow obstruction (BOO) which can result in clinical manifestations of lower urinary tract symptoms (LUTS), urinary retention or infections due to incomplete bladder emptying.

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

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

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

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

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

75. Anthony suffers burns on the legs, which nursing intervention helps prevent contractures?

- A. Applying knee splints.
- B. Elevating the foot of the bed.

- C. Hyperextending the client's palms.
- D. Performing shoulder range-of-motion exercises.

Correct Answer: A. Applying knee splints.

Applying knee splints prevents leg contractures by holding the joints in a position of function.

- **Option B:** Elevating the foot of the bed can't prevent contractures because this action doesn't hold the joints in a position of function.
- **Option C:** Hyperextending a body part for an extended time is inappropriate because it can cause contractures.
- **Option D:** Performing shoulder range-of-motion exercises can prevent contractures in the shoulders, but not in the legs.

76. A 22-year-old lady is displaying facial grimaces during her treatment in the hospital due to burn trauma. Which nursing intervention should be included for reducing pain due to cellular injury?

- A. Administering anti-inflammatory agents as prescribed.
- B. Elevating the injured area to decrease venous return to the heart.
- C. Keeping the skin clean and dry.
- D. Applying warm packs initially to reduce edema.

Correct Answer: A. Administering anti-inflammatory agents as prescribed

Anti-inflammatory agents help reduce edema and relieve pressure on nerve endings, subsequently reducing pain. The burned patient may require around-the-clock medication and dose titration. IV method is often used initially to maximize drug effect.

- **Option B:** Elevating the injured area increases venous return to the heart. Elevation may be required initially to reduce edema formation; thereafter, changes in position and elevation reduce discomfort and risk of joint contractures.
- **Option C:** Maintaining clean, dry skin aids in preventing skin breakdown. Cover wounds as soon as possible unless an open-air exposure burn care method is required. Temperature changes and air movement can cause great pain to exposed nerve endings.
- **Option D:** Cool packs, not warm packs, should be used initially to cause vasoconstriction and reduce edema. Altered tissue perfusion and edema formation impair drug absorption. Injections into potential donor sites may render them unusable because of hematoma formation.

77. A nurse is caring for a client diagnosed with TB. Which assessment, if made by the nurse, would not be consistent with the usual clinical presentation of TB and may indicate the development of a concurrent problem?

- A. Non Productive or productive cough
- B. Anorexia and weight loss
- C. Chills and night sweats
- D. High-grade fever

Correct Answer: D. High-grade fever

The client with TB usually experiences cough (non-productive or productive), fatigue, anorexia, weight loss, dyspnea, hemoptysis, chest discomfort or pain, chills and sweats (which may occur at night), and a low-grade fever. Clients with TB typically have low-grade fevers, not higher than 102°F. A chronic cough, hemoptysis, weight loss, low-grade fever, and night sweats are some of the most common physical findings in pulmonary tuberculosis.

- **Option A:** In pulmonary tuberculosis, the most commonly reported symptom is a chronic cough. Cough most of the time is productive, sometimes mixed with blood. Physical examination depends on the organs involved. In the case of pulmonary TB, a patient can have crepitations, and bronchial breath sounds, especially over the upper lobes or affected area indicating cavity or consolidation.
- **Option B:** Constitutional symptoms like fever, weight loss, lymphadenopathy, and night sweats are commonly reported. Extrapulmonary tuberculosis can affect any organ and can have a varied presentation.
- **Option C:** A chronic cough, hemoptysis, weight loss, low-grade fever, and night sweats are some of the most common physical findings in pulmonary tuberculosis. Secondary tuberculosis differs in clinical presentation from the primary progressive disease

78. A nurse is caring for a client admitted with diabetic retinopathy. Which of the following would the nurse expect to note on the assessment of this client:

- A. Blurred or distorted vision
- B. Flashes of lights or floaters
- C. Sudden loss of vision
- D. All of the above

Correct Answer: D. All of the above

Diabetic retinopathy is a complication of diabetes that is characterized by chronic and progressive damage to the retina. Symptoms include blurring of vision (due to macular edema), flashes of lights, and sudden loss of vision (due to retinal detachment).

- **Option A:** Over time, diabetes damages small blood vessels throughout the body, including the retina. Diabetic retinopathy occurs when these tiny blood vessels leak blood and other fluids. This causes the retinal tissue to swell, resulting in cloudy or blurred vision.
- **Option B:** The abnormal blood vessels associated with diabetic retinopathy stimulate the growth of scar tissue, which can pull the retina away from the back of the eye. This can cause spots floating in the vision, flashes of light, or severe vision loss.
- **Option C:** Diabetic retinopathy is a complication of diabetes, caused by high blood sugar levels damaging the back of the eye (retina). It can cause blindness if left undiagnosed and untreated.

79. Which neurotransmitter has been implicated in the development of Alzheimer's disease?

- A. Acetylcholine
- B. Dopamine

C. Epinephrine

D. Serotonin

Correct Answer: A. Acetylcholine

A relative deficiency of acetylcholine is associated with this disorder. The drugs used in the early stages of Alzheimer's disease will act to increase available acetylcholine in the brain. The remaining neurotransmitters have not been implicated in Alzheimer's disease. Cholinergic neurons located in the basal forebrain, including the neurons that form the nucleus basalis of Meynert, are severely lost in Alzheimer's disease (AD). AD is the most ordinary cause of dementia affecting 25 million people worldwide. The hallmarks of the disease are the accumulation of neurofibrillary tangles and amyloid plaques.

- **Option B:** Acetylcholine (ACh) was the first neurotransmitter to be identified. ACh is the neurotransmitter used by all cholinergic neurons, which has a very important role in the peripheral and central nervous systems. All pre- and postganglionic parasympathetic neurons and all preganglionic sympathetic neurons use ACh as a neurotransmitter. In addition, part of the postganglionic sympathetic neurons also uses ACh as a neurotransmitter.
- **Option C:** Given its widespread distribution in the brain, it is not surprising that cholinergic neurotransmission is responsible for modulating important neural functions. The cholinergic system is involved in critical physiological processes, such as attention, learning, memory, stress response, wakefulness and sleep, and sensory information.
- **Option D:** It has been demonstrated that the cholinergic system plays a role in the learning process. Moreover, published data indicate that ACh is involved in memory. Further studies have demonstrated that endogenous acetylcholine is important for modulation of acquisition, encoding, consolidation, reconsolidation, extinction, and retrieval of memory.

80. Nurse Elizabeth is administering medication via the intraosseous route to a child. Intraosseous drug administration is typically used when a child is:

A. Under age 3

B. Over age 3

C. Critically ill and under age 3

D. Critically ill and over age 3

Correct Answer: C. Critically ill and under age 3

In an emergency, intraosseous drug administration is typically used when a child is critically ill and under age 3. IO access provides a means of administering medications, glucose, and fluids, as well as (potentially) a means of obtaining blood samples. Such a situation would include any resuscitation; cardiopulmonary arrest; shock, regardless of etiology; life-threatening status epilepticus; or lack of venous access resulting from burns, edema, or obesity.

- **Option A:** In the 1980s, IO access was rediscovered as an immediately available tool in resuscitation situations, when time is of the essence and conditions may be adverse. Since then, IO access has become widely accepted in pediatric settings, especially because these patients often provide a particular challenge to obtaining rapid intravascular access.
- **Option B:** Initiation of IO access is indicated in adults, children, infants, or newborns in any clinical situation where vascular access is emergently needed but not immediately available via a peripheral vein.

- **Option D:** A retrospective study by Carlson et al found that in 2011, among out-of-hospital critical procedures provided for pediatric patients by emergency medical services in the United States, IO access was one of the most common.

81. A patient who is hospitalized due to vomiting and a decreased level of consciousness displays slow and deep (Kussmaul breathing), and he is lethargic and irritable in response to stimulation. The doctor diagnosed him of having dehydration. Measurement of arterial blood gas shows pH 7.0, PaO₂ 90 mm Hg, PaCO₂ 22 mm Hg, and HCO₃ 14 mmol/L; other results are Na⁺ 120 mmol/L, K⁺ 2.5 mmol/L, and Cl⁻ 95 mmol/L. As a knowledgeable nurse, you know that the normal value for PaCO₂ is:

- A. 22 mm Hg
- B. 36 mm Hg
- C. 48 mm Hg
- D. 50 mm Hg

Correct Answer: B. 36 mm Hg

The normal range for PaCO₂ is from 35 to 45 mm Hg.

82. While reviewing the renal anatomy and physiology with nursing students, the instructor emphasizes the importance of the ascending limb of the loop of Henle in renal function. Which of the following functions should the instructor describe as a primary role of the ascending limb of the loop of Henle?:

- A. Dilute the filtrate by removing solutes.
- B. Remove water and additional solutes.
- C. Help regulate aldosterone secretion.
- D. Increase the rate of active transport of Na⁺ in the distal tubules and collecting ducts.

Correct Answer: A. Dilute the filtrate by removing solutes.

The ascending limb of the loop of Henle functions to dilute the filtrate by removing solutes. The thin segment of the ascending limb is not permeable to water, but it is permeable to solutes.

- **Option B:** The cuboidal cells of the distal tubule and collecting duct function to remove water and additional solutes.
- **Option C:** Renin and angiotensin help regulate aldosterone secretion. Renin is secreted by cells of the juxtaglomerular apparatus in the kidneys. It is an enzyme that acts on a protein produced by the liver called angiotensinogen.
- **Option D:** Aldosterone increases the rate of active transport of Na⁺ in the distal tubules and collecting ducts. In the absence of aldosterone, large amounts of Na⁺ remain in the nephron and become part of the urine.

83. The client with suspected meningitis is admitted to the unit. The doctor is performing an assessment to determine meningeal irritation and spinal nerve root inflammation. A positive Kernig's sign is charted if the nurse notes:

- A. Pain on flexion of the hip and knee
- B. Nuchal rigidity on flexion of the neck
- C. Pain when the head is turned to the left side
- D. Dizziness when changing positions

Correct Answer: A. Pain on flexion of the hip and knee

Kernig's sign is positive if pain occurs on flexion of the hip and knee. Kernig's sign is one of the physically demonstrable symptoms of meningitis. Severe stiffness of the hamstrings causes an inability to straighten the leg when the hip is flexed to 90 degrees.

- **Option B:** The Brudzinski reflex is positive if pain occurs on flexion of the head and neck onto the chest. Brudzinski's sign is one of the physically demonstrable symptoms of meningitis. Severe neck stiffness causes a patient's hips and knees to flex when the neck is flexed. Brudzinski's sign is used to diagnose meningitis.
- **Option C:** A tension headache may cause pain on the left side and behind the eyes, and may be linked to stress. Tension headaches account for up to 42 percent of headaches worldwide. They may occur on one side so could be the cause of a headache on the left side.
- **Option D:** Benign paroxysmal positional vertigo (BPPV) is one of the most common causes of vertigo — the sudden sensation that you're spinning or that the inside of your head is spinning. BPPV causes brief episodes of mild to intense dizziness. It is usually triggered by specific changes in the head's position. This might occur when one tips their head up or down, when the client lies down, or when he turns over or sits up in bed.

84. Which of the following clients is most at risk for developing multiple myeloma?

- A. A 60-year-old African-American man
- B. A 52-year-old Hispanic woman
- C. A 35-year-old White man
- D. A 25-year-old Asian woman

Correct Answer: A. A 60-year-old African-American man

- **Option A:** Multiple myeloma is more common in middle-aged and older clients (the median age at diagnosis is 60 years) and is twice as common in Blacks as Whites. It occurs most often in Black men.

85. When teaching a client about pancreatic function, the nurse understands that pancreatic lipase performs which function?

- A. Transports fatty acids into the brush border
- B. Breaks down fat into fatty acids and glycerol

- C. Triggers cholecystokinin to contract the gallbladder
- D. Breaks down protein into dipeptides and amino acids

Correct Answer: B. Breaks down fat into fatty acids and glycerol.

Lipase hydrolyses or breaks down fat into fatty acids and glycerol. Lipase is an enzyme that breaks down triglycerides into free fatty acids and glycerol. Lipases are present in pancreatic secretions and are responsible for fat digestion. There are many different types of lipases; for example, hepatic lipases are in the liver, hormone-sensitive lipases are in adipocytes, lipoprotein lipase is in the vascular endothelial surface, and pancreatic lipase in the small intestine.

- **Option A:** Lipase is not involved with the transport of fatty acids into the brush border. Lipases are enzymes that play a crucial role in lipid transport. Hepatic lipase plays a crucial role in the formation and delivery of low-density lipoprotein (LDL). LDL is formed by the modification of intermediate density lipoprotein in the peripheral tissue and liver by hepatic lipase. These LDL particles are taken up, or endocytosed, via receptor-mediated endocytosis by target cell tissue. LDL serves to ultimately transport cholesterol from the liver to peripheral tissue.
- **Option C:** Fat itself triggers cholecystokinin release. Hormone-sensitive lipase is found within fat tissue and is responsible for degrading the triglycerides that are stored within adipocytes. Fat necrosis occurs enzymatically and non-enzymatically. In acute pancreatitis, saponification of peripancreatic fat occurs. During traumatic events, such as physical injury in breast tissue, non-enzymatic fat necrosis takes place.
- **Option D:** Protein breakdown into dipeptides and amino acids is the function of trypsin, not lipase. Lipoprotein lipase is found on the vascular endothelial surface and is responsible for degrading triglycerides that circulating from chylomicrons and VLDLs. Pancreatic lipase is found within the small intestine and is responsible for degrading dietary triglycerides.