

Kevin's Review - 85 NCLEX Practice Questions

1. A client is prescribed sertraline (Zoloft). To guarantee a safe administration of the medication, a nurse would administer the dose:

- A. As needed only for depressions
- B. Early in the morning
- C. Take on an empty stomach
- D. At bedtime

Correct Answer: D. At bedtime

Sertraline (Zoloft) is a type of antidepressant known as a selective serotonin reuptake inhibitor (SSRI) used to treat depression, panic attacks, obsessive-compulsive disorder (OCD), social phobia, and post-traumatic stress disorder (PTSD). It may be administered in the morning or evening, but giving it in the evening is more favored since drowsiness is one of the side effects.

2. A client returns to the clinic for follow-up treatment following a skin biopsy of a suspicious lesion performed one (1) week ago. The biopsy report indicates that the lesion is melanoma. The nurse understands that which of the following describes a characteristic of this type of lesion?

- A. Melanoma is characterized by local invasion.
- B. Melanoma is highly metastatic.
- C. Metastasis is rare.
- D. Melanoma is encapsulated.

Correct Answer: B. Melanoma is highly metastatic.

Melanomas are pigmented malignant lesions originating in the melanin-producing cells of the epidermis. This cancer is highly metastatic, and prognosis depends on early diagnosis and treatment.

3. A 70-year-old alcoholic patient with acute lethargy, confusion, and incontinence is admitted to the hospital ED. His wife tells you that he fell down the stairs about a month ago, but "he didn't have a scratch afterward." She feels that he has become gradually less active and sleepier over the last 10 days or so. Which of the following collaborative interventions will you implement first?

- A. Place on the hospital alcohol withdrawal protocol.
- B. Transfer to radiology for a CT scan.
- C. Insert a retention catheter to straight drainage.
- D. Give phenytoin (Dilantin) 100 mg PO.

Correct Answer: B. Transfer to radiology for a CT scan.

The patient's history and assessment data indicate that he may have a chronic subdural hematoma. The priority goal is to obtain a rapid diagnosis and send the patient to surgery to have the hematoma evacuated.

- **Option A:** This can be done after the treatment for any intracranial lesion has been implemented.
- **Option C:** This intervention should be done but is not the priority.
- **Option D:** Administration of phenytoin should be implemented as soon as possible, but the initial nursing activities should be directed toward treatment of any intracranial lesion.

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

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

Correct Answer: B. Decreased cardiac output

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

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

5. In staging and grading neoplasm TNM systems is used. TNM stands for:

- A. Tumor, neoplasm, mode of growth
- B. Time, node, metastasis
- C. Tumor, node, metastasis
- D. Time, neoplasm, mode of growth

Correct Answer: C. Tumor, node, metastasis

- TNM system is used to describe the amount and spread of cancer in a client's body. TNM stands for tumor (describes the original primary tumor), node (describes whether the cancer has spread to the nearby lymph nodes), and metastasis (describes whether the cancer has spread to other parts of the body).

6. With which of the following disorders is jugular vein distention most prominent?

- A. Abdominal aortic aneurysm
- B. Heart failure
- C. Myocardial infarction
- D. Pneumothorax

Correct Answer: B. Heart failure

Elevated venous pressure, exhibited as jugular vein distention, indicates a failure of the heart to pump.

- **Option A:** Jugular vein distention isn't a symptom of an abdominal aortic aneurysm. The jugular vein is considered a central vein in the body. Central veins are thin-walled, distensible reservoirs and act as a conduit of blood in continuity with the right atrium. The jugular vein divides into external and internal.
- **Option C:** An MI, if severe enough, can progress to heart failure; however, in and of itself, an MI doesn't cause jugular vein distention. In patients with acute inferior-wall MI with right ventricular involvement, distention of neck veins is commonly described as a sign of failure of the right ventricle.
- **Option D:** Pneumothorax does not cause jugular vein distention. A tension pneumothorax can cause severe hypotension (obstructive shock) and even death. An increase in central venous pressure can result in distended neck veins, hypotension.

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

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

Correct Answer: B. Blood warmer

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

- **Option A:** Cardiac monitor is used to assess for any blood transfusion-related complication, but they do not prevent the occurrence of cardiac dysrhythmia. During the blood transfusion process, patients' vital signs (heart rate, blood pressure, temperature, and respiration rate) should be monitored throughout the procedure and recorded. Follow the organization's policy on how often the vital signs should be measured.
- **Option C:** ECG machine is used to assess for any blood transfusion-related complication, but they do not prevent the occurrence of cardiac dysrhythmia. Many severe reactions occur within the first 30 minutes of commencing a transfusion of a blood component unit (SHOT 2008). Close

observation during this period is essential.

- **Option D:** Infusion pump is not beneficial in this case since the infusion must be given rapidly. SHOT 2008 recommends that patients be observed during the subsequent 24 hours because, on occasion, transfusion reactions can occur many hours after transfusion is completed.

8. During surgery, there is an increased potential for arrhythmias when catecholamines are given with:

- A. halothane (Fluothane)
- B. digoxin (Lanoxin)
- C. bupivacaine (Marcaine)
- D. lidocaine (Xylocaine)

Correct Answer: A. halothane (Fluothane)

Arrhythmias are a result of an interaction that can occur with halothane and catecholamines. Halothane is a clear, heavy, and colorless liquid with a sweet and non-irritating odor. Halothane's structure is that of an alkane. It has primarily been used clinically as an inhalational anesthetic. Cardiorespiratory instability (i.e., hypotension, bradycardia), sensitizing the myocardium to catecholamine-induced arrhythmias, and mild liver dysfunction are relatively common side effects of halothane. Arrhythmias are especially common in neonates and children after the administration of halothane, particularly bradyarrhythmias. Other choices do not interact with halothane to cause arrhythmias.

- **Option B:** Digoxin toxicity is clinically relevant as it can lead to fatal cardiac arrhythmias. The estimated frequency is at about 0.8 to 4% of patients on steady digoxin therapy. The rate of toxicity increases as serum digoxin concentration reaches over 2.0 ng/ml. However, toxicity can also occur at lower levels, especially in the setting of other risk factors such as low body weight, advanced age, decreased renal function, and hypokalemia.
- **Option C:** Rarely, patients can exhibit toxicity to bupivacaine in doses much lower than the suggested upper limits of dosing. This toxicity appears to be due to a rare condition related to L-carnitine deficiency. Patients affected may exhibit cardiac toxicity at doses as low as 1.1 mg/kg of bupivacaine injected cutaneously. Case reports exist describing these cases of low dose toxicity in patients later discovered to be deficient in L-carnitine.
- **Option D:** Signs and symptoms of mild toxicity become apparent at plasma levels greater than 5 mcg/mL, beginning with slurred speech, tinnitus, circumoral paresthesia, and feeling faint. Above 10 mcg/mL, the patient may experience seizures or loss of consciousness. The myocardium and central nervous system are further depressed at 15 mcg/mL, progressing to cardiac arrhythmias, respiratory arrest, and cardiac arrest above 20 mcg/mL.

9. The nurse is preparing to give a liquid oral potassium supplement. The nurse should:

- A. Give the medication on an empty stomach
- B. Give the medication with warm water
- C. Give the medication without diluting it
- D. Give the medication with 4 oz. of juice

Correct Answer: D. Give the medication with 4 oz. of juice

- Option D: Oral liquid potassium supplements should be diluted in at least 4oz. of juice or cold water to prevent gastric upset, unpleasant taste, and the laxative effect of the medication.
- Options A, B, and C: They can cause gastric upset.

10. A nurse is providing instructions to a client who is taking doxapram (Dopram). Which of the following statements made by the client needs further instructions?

- A. "I need to take the medication before meals".
- B. "I need to take the medication at bedtime".
- C. "I need to avoid drinking coffee".
- D. "I will not chew or crush long acting form of the medications".

Correct Answer: B. "I need to take the medication at bedtime".

Doxapram (Dopram) is a central nervous system stimulant. One of the side effects is insomnia so instruct the client to take it at least 6 hours before bedtime to prevent it.

- **Options A, C, & D:** These are appropriate instructions regarding the use of doxapram.

11. A female client is receiving chemotherapy to treat breast cancer. Which assessment finding indicates a fluid and electrolyte imbalance induced by chemotherapy?

- A. Serum potassium level of 3.6 mEq/L
- B. Blood pressure of 120/64 to 130/72 mm Hg
- C. Dry oral mucous membranes and cracked lips
- D. Urine output of 400 ml in 8 hours

Correct Answer: C. Dry oral mucous membranes and cracked lips

- **Option C:** Chemotherapy commonly causes nausea and vomiting, which may lead to fluid and electrolyte imbalances. Signs of fluid loss include dry oral mucous membranes, cracked lips, decreased urine output (less than 40 ml/hour), abnormally low blood pressure, and a serum potassium level below 3.5 mEq/L.
- **Options A, B, and D:** These values are within the normal limits.

12. A 52-year-old female patient with a long-standing history of rheumatoid arthritis (RA) is being discharged from a specialty rheumatology clinic. Her disease has shown moderate to severe activity despite conventional treatments. Therefore, her rheumatologist has decided to initiate a biologic therapy to better control the disease. As the nurse prepares the patient for discharge, she reviews essential education points related to the new biologic medication. The patient, eager to take charge of her health, provides feedback

on her understanding of the therapy. Which statement by the patient indicates a need for further teaching?

- A. "I will monitor for signs of infection and report them to my healthcare provider."
- B. "I will continue to take my nonsteroidal anti-inflammatory drug (NSAID) for pain relief."
- C. "I understand that I may need routine blood tests to monitor my liver function."
- D. "I will administer the biologic medication by injecting it into my muscle."

Correct Answer: D. "I will administer the biologic medication by injecting it into my muscle."

This statement indicates a need for further teaching. Most biologic medications for RA are administered subcutaneously (under the skin) rather than intramuscularly. It's essential for the patient to know the correct administration technique to ensure the medication's efficacy and reduce potential side effects or complications from incorrect administration.

- **Option A:** This statement is correct. Biologic medications can suppress the immune system, increasing the risk of infections. Patients should be educated to monitor for signs of infections and report any unusual symptoms to their healthcare provider.
- **Option B:** This is also an appropriate statement. Many patients on biologic medications may continue to take NSAIDs for pain relief, as biologics mainly target the underlying immune processes of RA, not the symptoms. As long as there are no contraindications or specific instructions from the physician, the patient can continue NSAIDs.
- **Option C:** This is a correct understanding. Although biologic medications target specific parts of the immune system and tend to have fewer systemic side effects than conventional DMARDs, some biologics and other RA medications can affect the liver. Therefore, periodic monitoring of liver function tests may be necessary.

13. Referencing the image below, what is the name of the structure marked #11.

- A. Renal calyx
- B. Renal capsule
- C. Renal medulla
- D. Renal papilla
- E. Arcuate blood vessels
- F. Renal vein
- G. Renal nerve
- H. Renal artery
- I. Renal pelvis
- J. Renal pyramid

Correct answer: #11 is Option D. renal papilla

The renal papilla is the apex or narrow, innermost end of the renal pyramid, situated in the renal medulla. It points toward the renal pelvis. The collecting ducts within the pyramid drain urine into the minor calyx via the renal papilla. This structure is crucial for funneling urine from the nephrons and collecting ducts into the renal pelvis and then into the ureters.

14. A woman with severe mitral stenosis and mitral regurgitation has a pulmonary artery catheter inserted. The physician orders pulmonary artery pressure monitoring, including pulmonary capillary wedge pressures. The purpose of this is to help assess the:

- A. Degree of coronary artery stenosis.
- B. Peripheral arterial pressure.
- C. Pressure from fluid within the left ventricle.
- D. Oxygen and carbon dioxide concentration in the blood.

Correct Answer: C. Pressure from fluid within the left ventricle.

The pulmonary artery pressures are used to assess the heart's ability to receive and pump blood. The pulmonary capillary wedge pressure reflects the left ventricle end-diastolic pressure and guides the physician in determining fluid management for the client. Pulmonary capillary wedge pressure (PCWP) is frequently used to assess left ventricular filling, represent left atrial pressure, and assess mitral valve function. It is measured by inserting a balloon-tipped, multi-lumen catheter (Swan-Ganz catheter) into a central vein, and advancing the catheter into a branch of the pulmonary artery.

- **Option A:** The degree of coronary artery stenosis is assessed during a cardiac catheterization. Although it is used for cardiac hemodynamics and assessment of valvular lesions, its main diagnostic role is the assessment of coronary artery disease. In the contemporary era, left heart catheterization, especially selective coronary angiogram, is considered the gold standard test for coronary artery disease diagnosis.
- **Option B:** The peripheral arterial pressure is assessed with an arterial line. Arterial pressure directly corresponds to cardiac output, arterial elasticity, and peripheral vascular resistance. Blood pressure is remarkably easy to alter and can be affected by many activities. In response to acute changes in blood pressure, the body responds through the baroreceptors located within blood vessels. Baroreceptors are a form of mechanoreceptor that becomes activated by the stretching of the vessel. This sensory information is conveyed to the central nervous system and used to influence peripheral vascular resistance and cardiac output.
- **Option D:** An arterial blood gases (ABG) test measures the acidity (pH) and the levels of oxygen and carbon dioxide in the blood from an artery. This test is used to find out how well the lungs are able to move oxygen into the blood and remove carbon dioxide from the blood. As blood passes through the lungs, oxygen moves into the blood while carbon dioxide moves out of the blood into the lungs. An ABG test uses blood drawn from an artery, where the oxygen and carbon dioxide levels can be measured before they enter body tissues.

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

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

Correct Answer: C. Intravenous (IV)

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

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

16. A client with a history of abusing barbiturates abruptly stops taking the medication. The nurse should give priority to assessing the client for:

- A. Depression and suicidal ideation
- B. Tachycardia and diarrhea
- C. Muscle cramping and abdominal pain
- D. Tachycardia and euphoric mood

Correct Answer: B. Tachycardia and diarrhea

Barbiturates create a sedative effect. When the client stops taking barbiturates, he will experience tachycardia, diarrhea, and tachypnea. When given in IV anesthetics, barbiturates will produce a reduction in blood pressure and an increase in heart rate. Respiratory depression and apnea may occur. Given the potential for severe adverse events including death, a pharmacist should verify the dosing, and perform a thorough medication reconciliation to ensure there are no drug interactions, in particular, additive CNS depression effects.

- **Option A:** Enough depression and suicidal ideation go along with barbiturate use; it is not the priority. Barbiturates cause postsynaptic enhancement of GABA, interacting with alpha and beta subunits of the GABA-A receptor. Barbiturates increase chloride ion flux which results in GABA-induced postsynaptic inhibition. Phenobarbital and pentobarbital affect the GABA-A receptors with a dose-dependent response.
- **Option C:** Muscle cramps and abdominal pain are vague symptoms that could be associated with other problems. Barbiturate classification is according to the duration of their action, IV formulations

of thiopental and methohexital are in the ultra short-acting class. The short and intermediate-acting have an effect lasting 2 to 6 hours. This classification includes sleeping medications pentobarbital, secobarbital, amobarbital, and butabarbital. Long-acting barbiturates have an effect of longer than 6 hours and include barbital and phenobarbital.

- **Option D:** Tachycardia is associated with stopping barbiturates, but euphoria is not. At higher micromolar concentrations associated with anesthetic levels, these drugs directly activate chloride channels. Both barbiturates and benzodiazepines interact with GABA-A receptors, but barbiturates are unique in that they potentiate GABA-A receptors while increasing chloride ion influx even with very low concentrations of the GABA neurotransmitter.

17. Which of the following nursing interventions are written correctly?

- A. Apply continuous passive motion machines during the day.
- B. Perform neurovascular checks.
- C. Elevate head of bed 30 degrees before meals.
- D. Change dressing once a shift.

Correct Answer: C. Elevate head of bed 30 degrees before meals.

It is specific in what to do and when. Nursing interventions should be specific and clearly stated, beginning with an action verb indicating what the nurse is expected to do. Action verb starts the intervention and must be precise.

- **Option A:** This intervention does not specify the location of the application. Nursing interventions are the actual treatments and actions that are performed to help the patient to reach the goals that are set for them. The nurse uses his or her knowledge, experience, and critical-thinking skills to decide which interventions will help the patient the most.
- **Option B:** It was not stated in this intervention when the neurovascular check should be performed. Nurses must use their knowledge, experience, resources, research of evidence-based practice, the counsel of others, and critical-thinking skills to decide which nursing interventions would best benefit a specific patient.
- **Option D:** Qualifiers of how, when, where, time, frequency, and amount provide the content of the planned activity. For example: "Educate parents on how to take temperature and notify of any changes," or "Assess urine for color, amount, odor, and turbidity."

18. Which nursing intervention takes the highest priority when caring for a newly admitted client who's receiving a blood transfusion?

- A. Warming the blood prior to transfusion.
- B. Informing the client that the transfusion usually takes 4 to 6 hours.
- C. Documenting blood administration in the client chart.
- D. Instructing the client to report any itching, chest pain, or dyspnea.

Correct Answer: D. Instructing the client to report any itching, headache, or dyspnea.

This will help the nurse take immediate action in case a reaction happens during a transfusion. There are multiple complications of blood transfusions, including infections, hemolytic reactions, allergic reactions, transfusion-related lung injury (TRALI), transfusion-associated circulatory overload, and

electrolyte imbalance.

- **Option A:** There is no evidence that warming blood is beneficial to the patient when transfusion is slow. At transfusion rates of greater than 100 mL/minute, cold blood may be a contributing factor in cardiac arrest. However, keeping the patient warm is probably more important than warming the blood.
- **Option B:** Transfusion of a unit of blood should be completed within a maximum period of four hours after removal from the blood fridge: discard the unit if this period is exceeded. If blood has been out of the blood bank refrigerator for more than 30 minutes and is not transfused, then the unit must be returned to the laboratory, where it will be disposed of.
- **Option C:** Documentation related to transfusion therapy should include verification of the prescribed blood product and blood product compatibility; verification of appropriate clinical indication for the transfusion; the date and time of transfusion, type of blood product administered, in addition to the volume, infusion rate, and time of initiation and completion of transfusion; any medication administered, including premedication (if I.V. drugs are required during transfusion, another I.V. site is required); the patient's clinical status throughout the transfusion therapy, including patient assessment data such as vital signs and lung sounds; the patient's response to therapy including any complications or adverse reactions, treatment required, and response to that treatment; and the amount of blood transfused and the return of the unused portion to the blood bank.

19. The nurse is assigned to a client with meningococcal meningitis. Which information about the client is the best indicator that the nurse can discontinue droplet precautions?

- A. Appropriate antibiotics have been given 24 hours
- B. Cough is productive of clear, nonpurulent mucus
- C. Pupils are equal and reactive to light
- D. Temperature is lower than 100°F (37.8°C)

Correct Answer: A. Appropriate antibiotics have been given 24 hours

Contemporary CDC evidence-based guidelines indicate that droplet precautions for clients with meningococcal meningitis can be discontinued when the client has received antibiotic therapy (with drugs that are effective against *Neisseria meningitidis*) for 24 hours.

- **Option B:** The patient with suspected or confirmed *N. meningitidis* should follow droplet precaution. This should be continued until after 24 hours of effective antibiotics administration. Meningococcal meningitis is a medical emergency presenting with severe sepsis syndrome, fever, petechiae, and ecchymosis requiring prompt resuscitation and antibiotic administration.
- **Option C:** A thorough neurologic exam should be performed looking for alteration in mental status, as well as any focal deficits. The classic triad of neck stiffness, fever, and altered mental status is a more specific sign for meningitis. Infants can present with a variety of non-specific symptoms, which include lethargy, irritability, and in some cases bulging fontanelles.
- **Option D:** The other information may mean that the client's condition is improving but does not mean that droplet precautions should be stopped. Patients can present with abnormal vital signs, including fever, tachypnea, tachycardia, and hypotension. Hypotension with elevated pulse rate is suggestive of early vascular instability.

20. A pregnant client is admitted to the labor room. An assessment is performed, and the nurse notes that the client's hemoglobin and hematocrit levels are low, indicating anemia. The nurse determines that the client is at risk for which of the following?

- A. A loud mouth
- B. Low self-esteem
- C. Hemorrhage
- D. Postpartum infections

Correct Answer: D. Postpartum infections

Anemic women have a greater likelihood of cardiac decompensation during labor, postpartum infection, and poor wound healing. Good nutrition is the best way to prevent anemia if the woman is pregnant or trying to become pregnant. Eating foods high in iron content (such as dark green leafy vegetables, red meat, fortified cereals, eggs, and peanuts) can help ensure that she maintains the supply of iron her body needs to function properly. The obstetrician will also prescribe vitamins to ensure that the woman has enough iron and folic acid. Make sure to get at least 27 mg of iron each day. If the woman does become anemic during pregnancy, it can usually be treated by taking iron supplements.

- **Option A:** The amount of blood in the body increases by about 20-30 percent, which increases the supply of iron and vitamins that the body needs to make hemoglobin. Hemoglobin is the protein in red blood cells that carries oxygen to other cells in the body.
- **Option B:** Mild anemia is normal during pregnancy due to an increase in blood volume. More severe anemia, however, can put the baby at higher risk for anemia later in infancy. In addition, if the mother is significantly anemic during the first two trimesters, she is at greater risk for having a preterm delivery or low-birth-weight baby. Being anemic also burdens the mother by increasing the risk of blood loss during labor and making it more difficult to fight infections.
- **Option C:** Anemia does not specifically present a risk for hemorrhage. Severe anemia may weaken uterine muscular strength or lower resistance to infectious diseases, contributing to postpartum hemorrhage and subsequent maternal mortality. However, the severity of anemia that places a woman at a greater risk of experiencing postpartum hemorrhage or a debilitating and clinically relevant blood loss has not been investigated. Indeed, the impact of anemia on the extent of blood loss at childbirth and postpartum is not well-understood.

21. Which of the following interventions should be the first priority when treating a client experiencing chest pain while walking?

- A. Sit the client down.
- B. Get the client back to bed.
- C. Obtain an ECG.
- D. Administer sublingual nitroglycerin.

Correct Answer: A. Sit the client down.

The initial priority is to decrease the oxygen consumption; this would be achieved by sitting the client down. Place the patient at complete rest during anginal episodes. Reduces myocardial oxygen demand to minimize the risk of tissue injury. Monitor vital signs every 5 min during the initial anginal attack.

Blood pressure may initially rise because of sympathetic stimulation, then fall if cardiac output is compromised.

- **Option B:** Stay with a patient who is experiencing pain or appears anxious. Anxiety releases catecholamines, which increase myocardial workload and can escalate and/or prolong ischemic pain. The presence of a nurse can reduce feelings of fear and helplessness.
- **Option C:** An ECG can be obtained after the client is sitting down. Monitor heart rate and rhythm. Patients with unstable angina have an increased risk of acute life-threatening dysrhythmias, which occur in response to ischemic changes and/or stress.
- **Option D:** After the ECG, sublingual nitro would be administered. When the client's condition is stabilized, he can be returned to bed. Nitroglycerin has been the standard for treating and preventing anginal pain for more than 100 yr. Today it is available in many forms and is still the cornerstone of antianginal therapy.

22. What is an appropriate indicator for performing a contraction stress test?

- A. Increased fetal movement and small for gestational age.
- B. Maternal diabetes mellitus and postmaturity.
- C. Adolescent pregnancy and poor prenatal care.
- D. History of preterm labor and intrauterine growth restriction.

Correct Answer: B. Maternal diabetes mellitus and postmaturity.

The contraction stress test helps predict how the baby will do during labor. The test triggers contractions and registers how the baby's heart reacts. A normal heartbeat is a good sign that the baby will be healthy during labor.

- **Option A:** Decreased fetal movement is an indicator for performing a contraction stress test; the size (small for gestational age) is not an indicator.
- **Option C:** Although adolescent pregnancy and poor prenatal care are risk factors for poor fetal outcomes, they are not indicators for performing a contraction stress test.
- **Option D:** Intrauterine growth restriction is an indicator; history of a previous stillbirth, not preterm labor, is another indicator.

23. Hypophosphatemia may result from which of the following diseases?

- A. Liver cirrhosis
- B. Renal failure
- C. Paget's disease
- D. Alcoholism

Correct Answer: D. Alcoholism

Hypophosphatemia may occur secondary to alcoholism. Hypophosphatemia is typically asymptomatic and is present in up to 5% of patients. It is much more prevalent in alcoholism, diabetic ketoacidosis, or sepsis, with a frequency of up to 80%. The morbidity of hypophosphatemia is highly dependent on its etiology and severity.

- **Option A:** Chronic liver diseases usually progress to cirrhosis. In the developed world, the most common causes of cirrhosis are hepatitis C virus (HCV), alcoholic liver disease, and nonalcoholic steatohepatitis (NASH), while hepatitis B virus (HBV) and HCV are the most common causes in the developing world.
- **Option B:** Renal failure is usually associated with hyperphosphatemia. Renal failure is the most common cause of hyperphosphatemia. A glomerular filtration rate of less than 30 mL/min significantly reduces the filtration of inorganic phosphate, increasing its serum level. Other less common causes include a high intake of phosphorus or increased renal reabsorption.
- **Option C:** Some literary sources suggest that the family of paramyxoviruses solely causes Paget. However, many studies have come to determine that the osteoclast generation of a unique cytokine found exclusively in the bone marrow of patients diagnosed with Paget disease may be the primary insult. This cytokine is known as IL-6.

25. Nurse Joey is assigned to care for a postoperative male client who has diabetes mellitus. During the assessment interview, the client reports that he's impotent and says he's concerned about its effect on his marriage. In planning this client's care, the most appropriate intervention would be to:

- Encourage the client to ask questions about personal sexuality.
- Provide time for privacy.
- Provide support for the spouse or significant other.
- Suggest referral to a sex counselor or other appropriate professional.

Correct Answer: D. Suggest referral to a sex counselor or other appropriate professional.

The nurse should refer this client to a sex counselor or other professional. Making appropriate referrals is a valid part of planning the client's care. Erectile Dysfunction (ED) is common in men with diabetes; these men tend to present with more severe and refractory ED compared to non-diabetic peers. While ED is the best established diabetes-related sexual dysfunction, ejaculatory and sexual desires issues may also occur in men.

- **Option A:** The nurse doesn't normally provide sex counseling. Diabetic neuropathy may impair autonomic and somatic nerve processes essential to erections. Diabetes is also associated with impaired relaxation of cavernosal smooth muscle due to endothelial-derived nitric oxide, which may be a side effect of glycosylation products.
- **Option B:** It is recommended that diabetic men be screened for the presence of low testosterone by checking serum total testosterone; sex hormone binding globulin and albumin should also be tested to assess for free and bioavailable testosterone.
- **Option C:** As with most aspects of diabetes care, routine exercise, careful monitoring of glucose levels, and usage of appropriate therapies to prevent hyperglycemia are key to preventing progression of diabetes-induced sexual problems. Weight management and dietary prudence are also critical in the management of diabetes.

26. A client is admitted to the birthing suite in early active labor. The priority nursing intervention on the admission of this client would be:

- Auscultating the fetal heart

- B. Taking an obstetric history
- C. Asking the client when she last ate
- D. Ascertaining whether the membranes were ruptured

Correct Answer: A. Auscultating the fetal heart.

Determining the fetal well-being supersedes all other measures. If the FHR is absent or persistently decelerating, immediate intervention is required. During labor, cardiotocographic monitoring is often employed to monitor uterine contractions and fetal heart rate over time. Clinicians monitor fetal heart tracings to evaluate for any signs of fetal distress that would warrant intervention as well as the adequacy or inadequacy of contractions.

- **Option B:** When women first present to the labor and delivery unit, vital signs, including temperature, heart rate, oxygen saturation, respiratory rate, and blood pressure, should be obtained and reviewed for any abnormalities. The patient should be placed on continuous cardiotocographic monitoring to ensure fetal wellbeing. The patient's prenatal record, including obstetric history, surgical history, medical history, laboratory, and imaging data, should undergo review. Finally, a history of present illness, review of systems, and physical exam, including a sterile speculum exam, will need to take place.
- **Option C:** Labor is a natural process, but it can suffer interruption by complicating factors, which at times necessitate clinical intervention. The management of low-risk labor is a delicate balance between allowing the natural process to proceed while limiting any potential complications.
- **Option D:** Cervical exams are usually performed every 2 to 3 hours unless concerns arise and warrant more frequent exams. Frequent cervical exams are associated with a higher risk of infection, especially if a rupture of membranes has occurred. Women should be allowed to ambulate freely and change positions if desired.

27. Oral steroids are prescribed on a taper in order to:

- A. Achieve optimal serum levels.
- B. Ensure drug reliability.
- C. Ensure compliance.
- D. Prevent steroid withdrawal syndrome.

Correct Answer: D. Prevent steroid withdrawal syndrome.

Steroids are tapered off in order to prevent a withdrawal syndrome. Tapering the dosage over 2 months or more may be necessary for patients on prolonged treatment (more than 1 year). Depending on the dosage, duration of therapy, and risk of systemic disease, decrease dosage by the equivalent of 2.5 to 5 mg prednisone every 3 to 7 days until a dosage of 5 mg of prednisone is reached.

- **Option A:** Optimal serum levels do not require tapering in order to be maintained. Before initiating long-term systemic corticosteroid therapy, a thorough history and physical examination should be performed to assess for risk factors or pre-existing conditions that may potentially be exacerbated by GC therapy, such as diabetes, dyslipidemia, CVD, GI disorders, affective disorders, or osteoporosis.
- **Option B:** Tapering has nothing to do with drug reliability. If the client takes prednisone for more than a few weeks, the adrenal glands will decrease the natural production of cortisol. If the client stops prednisone abruptly before production is restored, the lack of hormones can trigger an array of withdrawal symptoms.

- **Option C:** Compliance is not dependent on tapering. To avoid prednisone withdrawal, the drug should be gradually reduced in stages according to a specific schedule prescribed by the doctor. An exception is if prednisone has been given over a very short period of time. Don't try to stop or taper prednisone without the doctor's knowledge or advice.

28. A 23-year-old client who has been admitted with a diagnosis of schizophrenia says to the nurse "Yes, it's march, March is a little woman". That's literal you know". These statements illustrate:

- A. Neologisms
- B. Echolalia
- C. Flight of ideas
- D. Loosening of association

Correct Answer: D. Loosening of association

Loose associations are thoughts that are presented without the logical connections usually necessary for the listener to interpret the message. A thought disturbance demonstrated by speech that is disconnected and fragmented, with the individual jumping from one idea to another unrelated or indirectly related idea. It is essentially equivalent to derailment.

- **Option A:** A new word that is coined especially by a person affected with schizophrenia and is meaningless except to the coiner, and is typically a combination of two existing words or a shortening or distortion of an existing word.
- **Option B:** Echolalia is a mechanical repetition of words and phrases uttered by another individual. It is often a symptom of a neurological or developmental disorder, particularly catatonic schizophrenia or autism.
- **Option C:** A nearly continuous flow of accelerated speech with abrupt changes from topic to topic that are usually based on understandable associations, distracting stimuli, or plays on words. When severe, speech may be disorganized and incoherent. It is part of the DSM-5 criteria for Manic episodes.

29. You are preparing to admit a patient with a seizure disorder. Which of the following actions can you delegate to LPN/LVN?

- A. Complete admission assessment
- B. Set up oxygen and suction equipment
- C. Place a padded tongue blade at the bedside
- D. Pad the side rails before the patient arrives

Correct Answer: B. Set up oxygen and suction equipment

The LPN/LVN can set up the equipment for oxygen and suction.

- **Option A:** The RN should perform the complete initial assessment.
- **Option C:** Tongue blades should not be at the bedside and should never be inserted into the patient's mouth after a seizure begins.

- **Option D:** Padded side rails are controversial in terms of whether they actually provide safety and may embarrass the patient and family.

30. Arvic, a 16-year-old student, has acquired systemic fungal infection, he should be treated with:

- A. Amphotericin B (Fungizone)
- B. Miconazole (Monistat IV)
- C. Ketoconazole (Nizoral)
- D. Griseofulvin (Fulvicin)

Correct Answer: A. Amphotericin B (Fungizone)

Serious life-threatening fungal infections are treated with amphotericin B. Amphotericin B deoxycholate belongs to the polyene class of antifungals. It is also known by the name conventional amphotericin B and has been in use for the treatment of invasive fungal infections for more than 50 years. It was first isolated as a natural product of a soil actinomycete.

- **Option B:** Topical miconazole is approved to treat cutaneous and mucocutaneous mycoses, particularly vulvovaginal candidiasis. Oral formulations of miconazole are indicated for oropharyngeal candidiasis.
- **Option C:** Ketoconazole, when applied topically, has been approved for treating tinea corporis, tinea cruris, tinea pedis, tinea versicolor, cutaneous candidiasis, and seborrheic dermatitis. Off-label, topical ketoconazole is used to treat several oral candidal pathologies, including chronic mucocutaneous candidiasis and oral thrush.
- **Option D:** Griseofulvin is only approved as a systemic (oral) agent and is indicated for the treatment of dermatophytoses of the skin, hair, and nails, which is severe or refractory to topical therapy. Specifically, this drug treats tinea (corporis, pedis, cruris, barbae, capitis, and unguium).

31. What assessment finding of a patient with acute pancreatitis would indicate a bluish discoloration around the umbilicus?

- A. Grey-Turner's sign
- B. Homan's sign
- C. Rovsing's sign
- D. Cullen's sign

Correct Answer: D. Cullen's sign

Cullen's sign is associated with pancreatitis when a hemorrhage is suspected. Cullen's sign is described as superficial edema with bruising in the subcutaneous fatty tissue around the periumbilical region. It is also known as periumbilical ecchymosis. It is most often recognized as a result of hemorrhagic pancreatitis. The sign can take 2–3 days before appearance and may be used as a clinical sign to help the diagnosis of acute pancreatitis.

- **Option A:** Grey-Turner's sign is ecchymosis in the flank area suggesting retroperitoneal bleed. Grey Turner's sign is an uncommon subcutaneous manifestation of intra-abdominal pathology that manifests as ecchymosis or discoloration of the flanks. Classically it correlates with severe acute necrotizing pancreatitis, often in association with Cullen's sign (periumbilical ecchymosis).

- **Option B:** Homan's sign is called pain elicited by the dorsiflexion of the foot and suggests deep vein thrombosis. Homan's sign test also called dorsiflexion sign test is a physical examination procedure that is used to test for deep vein thrombosis (DVT). A positive Homan's sign in the presence of other clinical signs may be a quick indicator of DVT. Clinical evaluation alone cannot be relied on for patient management, but when carefully performed, it remains useful in determining the need for additional testing (like D-dimer test, ultrasonography, multidetector helical computed axial tomography (CT), and pulmonary angiography).
- **Option C:** Rovsing's sign is associated with appendicitis when pain is felt with pressure at McBurney's point. Rovsing's sign is a clinical finding that is indicative of acute appendicitis (the inflammation and possible infection of the appendix). A positive Rovsing's sign is characterized by right lower abdominal pain upon palpation of the left side of the lower abdomen

32. A client receiving vent-assisted mode ventilation begins to experience cluster breathing after recent intracranial occipital bleeding. Which action would be most appropriate?

- A. Count the rate to be sure the ventilations are deep enough to be sufficient.
- B. Call the physician while another nurse checks the vital signs and ascertains the patient's Glasgow Coma score.
- C. Call the physician to adjust the ventilator settings.
- D. Check deep tendon reflexes to determine the best motor response.

Correct Answer: B. Call the physician while another nurse checks the vital signs and ascertains the patient's Glasgow Coma score.

Cluster breathing consists of clusters of irregular breaths followed by periods of apnea on an irregular basis. A lesion in the upper medulla or lower pons is usually the cause of cluster breathing. Because the client had a bleed in the occipital lobe, which is superior and posterior to the pons and medulla, clinical manifestations that indicate a new lesion are monitored very closely in case another bleed ensues. The physician is notified immediately so that treatment can begin before respirations cease.

- **Option A:** Another nurse needs to assess vital signs and score the client according to the GCS, but time is also of the essence. Changes in blood pressure, compare BP readings in both arms. Respirations, noting patterns and rhythm (periods of apnea after hyperventilation), Cheyne-Stokes respiration. Irregularities can suggest location of cerebral insult or increasing ICP and need for further intervention, including possible respiratory support.
- **Option C:** Maintain bedrest, provide a quiet and relaxing environment, restrict visitors and activities. Cluster nursing interventions and provide rest periods between care activities. Limit duration of procedures. Continuous stimulation or activity can increase intracranial pressure (ICP). Absolute rest and quiet may be needed to prevent rebleeding in the case of hemorrhage.
- **Option D:** Checking deep tendon reflexes is one part of the GCS analysis. Assess for nuchal rigidity, twitching, increased restlessness, irritability, onset of seizure activity. Indicative of meningeal irritation, especially in hemorrhage disorders. Seizures may reflect increased ICP or cerebral injury, requiring further evaluation and intervention.

33. A client has been undergoing radiotherapy for the treatment of mandibular cancer. After a few sessions, the client is diagnosed with Tumor Lysis Syndrome (TLS). Which of the following findings correlates with TLS?

- A. Phosphorus level of 6 mg/dL.
- B. Phosphorus level of 3 mg/dL.
- C. Phosphorus level of 4 mg/dL.
- D. Phosphorus level of 2 mg/dL.

Correct Answer: A. Phosphorus level of 6 mg/dL.

Tumor lysis syndrome (TLS) is a potentially life-threatening metabolic disorder characterized by elevated phosphorus levels. The normal phosphorus is 2.5 to 4.5 mg/dL. When cancer cells break down quickly in the body, levels of uric acid, potassium, and phosphorus rise faster than the kidneys can remove them. This causes TLS. Excess phosphorus can “sop up” calcium, leading to low levels of calcium in the blood.

- **Option B:** 3 mg/dL is a normal phosphorus level. Changes in blood levels of uric acid, potassium, phosphorus, and calcium can affect the functioning of several organs, especially the kidneys, and also the heart, brain, muscles, and gastrointestinal tract.
- **Option C:** 4 mg/dL is a normal phosphorus level. Not all cancer patients are at equal risk of developing TLS. Patients with a large “tumor burden” of cancer cells and/or tumors that typically have rapidly dividing cells, such as acute leukemia or high-grade lymphoma, as well as tumors that are highly responsive to therapy, are at greatest risk of developing TLS.
- **Option D:** 2 mg/dL is a normal phosphorus level. TLS is not limited to patients receiving traditional chemotherapy; it can also occur in patients receiving steroids, hormonal therapy, targeted therapy, or radiation therapy. Patients who are dehydrated and those with existing kidney dysfunction are at higher risk of developing TLS.

34. What is the first intervention for a client experiencing myocardial infarction?

- A. Administer morphine
- B. Administer oxygen
- C. Administer sublingual nitroglycerin
- D. Obtain an electrocardiogram

Correct Answer: B. Administer oxygen

Administering supplemental oxygen to the client is the first priority of care. The myocardium is deprived of oxygen during an infarction, so additional oxygen is administered to assist in oxygenation and prevent further damage.

- **Option A:** Morphine may be given after administering supplemental oxygen first. As a potent opioid, morphine has seemed to be the ideal analgesic. It has innate hemodynamic effects that are beneficial during MI. It decreases heart rate, blood pressure, and venous return, and it may also stimulate local histamine-mediated processes. Theoretically, this reduces myocardial oxygen demand.
- **Option C:** Sublingual nitroglycerin is also used to treat MI, but they're more commonly administered after the oxygen. Nitroglycerin remains the first-line treatment for angina pectoris and acute myocardial infarction. Nitroglycerin achieves its benefit by giving rise to nitric oxide, which causes vasodilation and increases blood flow to the myocardium.

- **Option D:** An ECG is the most common diagnostic tool used to evaluate MI. In a myocardial infarction transmural ischemia develops. In the first hours and days after the onset of myocardial infarction, several changes can be observed on the ECG. First, large peaked T waves (or hyperacute T waves), then ST elevation, then negative T waves, and finally pathologic Q waves develop.

35. Which of the following laboratory tests should be monitored when a client is receiving azathioprine?

- A. CBC
- B. BUN
- C. Electrolytes
- D. Sedimentation rate

Correct Answer: A. CBC

CBC will identify leukopenia, a common side effect. Complete blood count (CBC) and liver function test (LFT) monitoring weekly are recommended initially for the first 4 to 8 weeks. When maintenance dose achieved, CBC and LFT should get checked every three months for the rest of the treatment. Although it is advisable to check CBC and LFT more frequently in patients with kidney or renal diseases or elderly, patients on high dosages of AZA or with low TPMT activity.

- **Option B:** If patients have abdominal pain or severe nausea/vomiting, serum amylase requires checking to rule out pancreatitis. Lymph node and skin examination should be biannual. If generalized wart occurs, the AZA dose should be reduced or switched to another agent.
- **Option C:** If labs show leukopenia (WBC less than $3 \times 10^9/L$), thrombocytopenia (platelet less than $120 \times 10^9/L$), or transaminitis (liver biochemistry more than half of the normal upper limit), the medication should be stopped.
- **Option D:** Test the patient for hepatitis B and C and PPD. A pregnancy test before treatment initiation is also a recommendation. Checking TPMT activity is suggested before starting the medication. Misclassification of TPMT phenotype can occur by prior blood transfusion.

36. The nurse should instruct a client who is taking an expectorant to:

- A. Restrict fluids
- B. Increase fluids
- C. Avoid vaporizers
- D. Take antihistamines

Correct Answer: B. Increase fluids

Increasing fluids will help liquefy secretions and facilitate removal. Drink plenty of fluids while taking this medication. Fluids will help to break up mucus and clear congestion. An expectorant is a type of cough medicine that thins and loosens mucus. These medications are typically used for managing the effects of chest congestion, especially when symptoms are caused by persistent mucus.

- **Option A:** Expectorants are commonly used for management of the symptoms of acute (short-term) respiratory tract infections, like the common cold, pneumonia, or bronchitis. These infections can cause a build-up of phlegm in your throat or lungs. It is often difficult to cough up this

thick mucus, and you can develop a nagging cough and chest discomfort due to mucus accumulation.

- **Option C:** When cold and flu season hits, dry air can make breathing issues worse. There are several types of humidifiers on the market, including cool-mist humidifiers and steam vaporizers. Both add moisture to the air, helping to ease cold and cough congestion.
- **Option D:** Antihistamines specifically block the tissue effects of histamine and thereby reduce or prevent all the symptoms except stuffiness. Decongestants are required to relieve the stuffiness, thus explaining the popularity of combination products containing both antihistamines and decongestants.

37. 20 cc is equal to how many ml?

- A. 2
- B. 20
- C. 2000
- D. 20000

Correct Answer: B. 20

One cubic centimeter is equal to one milliliter. When clinicians are prepared and know the key conversion factors, they will be less anxious about the calculation involved. This is vital to accuracy, regardless of which formula or method employed.

- **Option A:** Drug calculations require the use of conversion factors, for example, when converting from pounds to kilograms or liters to milliliters. Simplistic in design, this method allows clinicians to work with various units of measurement, converting factors to find the answer. These methods are useful in checking the accuracy of the other methods of calculation, thus acting as a double or triple check.
- **Option C:** Units of measurement must match, for example, milliliters and milliliters, or one needs to convert to like units of measurement. In the example above, the ordered dose was in milligrams, and the have dose was in milligrams, both of which cancel out leaving milliliters (answer called for milliliters), so no further conversion is required.
- **Option D:** All members of the interprofessional team are responsible for dose calculations. Physicians, nurses, and pharmacists all must be conversant in the desired overall formula. This technique is invaluable in properly treating patients.

38. The nurse is giving dietary instructions to a client who is on a vegan diet. The nurse provides dietary teaching focus on foods high in which vitamin that may be lacking in a vegan diet?

- A. Vitamin A
- B. Vitamin D
- C. Vitamin E
- D. Vitamin C

Correct Answer: B. Vitamin D

Deficiencies in vegetarian diets include vitamin B12 which is found in animal products and vitamin D (if limited exposure to sunlight). Vegans and other vegetarians who limit their intake of animal products may be at greater risk of vitamin D deficiency than nonvegetarians because foods providing the highest amount of vitamin D per gram naturally are all from animal sources, and fortification with vitamin D currently occurs in few foods.

- **Option A:** Plant sources contain vitamin A in the form of carotenoids which have to be converted during digestion into retinol before the body can use it. Carotenoids are the pigments that give plants their green color and some fruits and vegetables their red or orange color.
- **Option C:** The best way to get the daily requirement of vitamin E is by eating food sources. Vitamin E is found in vegetable oils, nuts, seeds, green leafy vegetables, and fortified breakfast cereals. It is an antioxidant. This means it protects body tissue from damage caused by substances called free radicals. Free radicals can harm cells, tissues, and organs. They are believed to play a role in certain conditions related to aging.
- **Option D:** Vitamin C can be found in fruits and vegetables, which are eaten by a vegetarian. Humans are unable to synthesize vitamin C, so it is strictly obtained through the dietary intake of fruits and vegetables. Citrus fruits, berries, tomatoes, potatoes, and green leafy vegetables are excellent sources of vitamin C.

39. A 68-year-old client comes to the outpatient clinic and complains to the attending nurse about his increased difficulty with “close-work” such as knitting. He indicates he does not have difficulty seeing objects on either side but does state that straight lines appear distorted or wavy. The nurse suspects which of the following disorders is consistent with the client’s reported symptoms?

- A. Glaucoma
- B. Cataracts
- C. Macular degeneration
- D. Subconjunctival hemorrhage

Correct Answer: C. Macular degeneration

Macular degeneration, often age-related macular degeneration (AMD or ARMD), is a medical condition that usually affects older adults and results in a loss of vision in the center of the visual field (the macula) because of damage to the retina. It occurs in “dry” and “wet” forms. It is a major cause of blindness and visual impairment in older adults (>50 years). Macular degeneration can make it difficult or impossible to read or recognize faces, although enough peripheral vision remains to allow other activities of daily life.

- **Option A:** Glaucoma is a condition of increased intraocular pressure in the eye that may progress to a loss of vision. This results in a characteristic optic nerve head appearance on fundoscopic examination and a corresponding progressive loss of vision.
- **Option B:** A cataract is a disease of the eye in which the normally clear lens has opacified which obscures the passage of light. It is a gradually progressive disease and a significant cause of blindness around the world. This blinding disease can affect infants, adults, and older people, but it predominates the latter group. It can be bilateral and vary in severity.
- **Option D:** The red-eye is a common complaint in emergency departments and outpatient clinics. One frequent cause is a subconjunctival hemorrhage. Subconjunctival Hemorrhage (SCH) is a

disorder that can occur for the most part from benign situations. However, there are certain times when subconjunctival hemorrhages can occur as a manifestation of a more dangerous underlying diagnosis, especially if persistent or recurrent.

40. Which of the following tests should be administered to a client suspected of having diverticulosis?

- A. Abdominal ultrasound
- B. Barium enema
- C. Barium swallow
- D. Gastroscopy

Correct Answer: B. Barium enema

A barium enema will cause diverticula to fill with barium and be easily seen on x-ray. 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 A:** The abdominal US can tell more about structures, such as the gallbladder, liver, and spleen, than the intestine. An abdominal ultrasound is a noninvasive procedure used to assess the organs and structures within the abdomen. This includes the liver, gallbladder, pancreas, bile ducts, spleen, and abdominal aorta. Ultrasound technology allows quick visualization of the abdominal organs and structures from outside the body.
- **Option C:** A barium swallow can view upper GI structures. A barium swallow also called an esophagram, is an imaging test that checks for problems in the upper GI tract. The upper GI tract includes the mouth, back of the throat, esophagus, stomach, and first part of the small intestine. The test uses a special type of x-ray called fluoroscopy.
- **Option D:** A gastroscopy is a procedure where a thin, flexible tube called an endoscope is used to look inside the esophagus (gullet), stomach, and the first part of the small intestine (duodenum). It's also sometimes referred to as an upper gastrointestinal endoscopy. The endoscope has a light and a camera at one end. The camera sends images of the inside of the esophagus, stomach, and duodenum to a monitor.

41. The primary function of the prostate gland is:

- A. To store underdeveloped sperm before ejaculation.
- B. To regulate the acidity and alkalinity of the environment for proper sperm development.
- C. To produce a secretion that aids in the nourishment and passage of sperm.
- D. To secrete a hormone that stimulates the production and maturation of sperm.

Correct Answer: C. To produce a secretion that aids in the nourishment and passage of sperm.

The prostate gland is located below the bladder and surrounds the urethra. It serves one primary purpose: to produce a secretion that aids in the nourishment and passage of sperm. The prostate gland is situated in the true pelvis and plays a supportive role in the male reproductive system. Its principal purpose is to secrete an alkaline solution protective for sperm in the acidic environment of the vagina.

- **Option A:** The cauda epididymis functions as a storage location for functionally mature sperm cells prior to ejaculation. At a given time, between 50 and 80% of sperm in the epididymal lumen are located in the cauda epididymis, depending on species.
- **Option B:** The fluid acts to balance the acidity of the vagina, which increases the overall lifespan of the sperm, allowing the greatest length of time to fertilize an egg successfully. The fluid also contains supportive proteins and enzymes that provide nourishment to sperm.
- **Option D:** The testis is the male reproductive gland that is responsible for producing sperm and making androgens, primarily. Testosterone levels are controlled by the release of Luteinizing Hormone (LH) from the anterior pituitary gland; whereas, Follicle-Stimulating Hormone (FSH) levels control sperm production.

42. A client enters the ER complaining of chest pressure and severe epigastric distress. His VS are 158/90, 94, 24, and 99°F. The doctor orders cardiac enzymes. If the client were diagnosed with an MI, the nurse would expect which cardiac enzyme to rise within the next 3 to 8 hours?

- A. Creatine kinase (CK or CPK)
- B. Lactic dehydrogenase (LDH)
- C. LDH-1
- D. LDH-2

Correct Answer: A. Creatine kinase (CK or CPK)

Creatine kinase (CK, formally known as CPK) rises in 3-8 hours if an MI is present. When the myocardium is damaged, CPK leaks out of the cell membranes and into the bloodstream. Creatine kinase activity is one of the oldest markers of acute myocardial infarction (AMI). Creatine kinase activity begins to rise within 12 hours of AMI symptoms, peaks at 24 to 36 hours, and normalizes after 48 to 72 hours.

- **Option B:** Lactic dehydrogenase rises in 24-48 hours. Lactate dehydrogenase is an enzyme that is present in almost all body tissues. Because LDH is non-specific and routine isozyme measurement is usually unavailable in clinical laboratories, LDH measurements provide incomplete information, and alternate assays such as CK for muscle, ALT for liver, troponin for heart diseases, etc. are needed.
- **Option C:** Isozyme LDH-1 has four heart subunits (4H) and is the major isozyme present in the heart tissue. The assembly of the enzymes occurs in a defined ratio through a tissue-specific synthesis of subunits, hence providing tissue specificity, i.e., heart-specific LDH (LDH-1) preferentially synthesizes all four H subunits, while liver LDH (LDH-5) is exclusively made of all M-subunits. In acute myocardial infarction, LDH-1 isozyme remains elevated from the second day to up to the 4th day.
- **Option D:** LDH-2 rises in 8-24 hours. Isozyme LDH-2 has three heart and one muscle subunit (3H1M) and is the major isozyme of the reticuloendothelial system and RBC. LDH can be used as a satisfactory marker for the staging of a disease (S-classification), monitor prognosis or response to treatment, and to evaluate body fluids other than blood. The decrease in LDH levels during treatment is indicative of a better prognosis and/or good response to treatment in conditions such as acute myocardial infarction or liver injury.

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

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

Correct Answer: A. Beta-adrenergic blockers

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

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

44. For a male client with an endotracheal (ET) tube, which nursing action is most essential?

- A. Auscultating the lungs for bilateral breath sounds.
- B. Turning the client from side to side every 2 hours.
- C. Monitoring serial blood gas values every 4 hours.
- D. Providing frequent oral hygiene.

Correct Answer: A. Auscultating the lungs for bilateral breath sounds.

For a client with an ET tube, the most important nursing action is auscultating the lungs regularly for bilateral breath sounds to ensure proper tube placement and effective oxygen delivery. Adventitious breath sounds such as wheezes and crackles are an indication of respiratory difficulties. Quick assessment allows for early detection of deterioration or improvement. Although the other options are appropriate for this client, they're secondary to ensuring adequate oxygenation.

- **Option B:** Turn the client every 2 hours. Turning mobilizes secretions and helps prevent ventilator-associated pneumonia. Auscultate the lungs for the presence of normal or adventitious breath sounds.
- **Option C:** Assess arterial blood gases (ABGs). Signs of respiratory compromise including decreasing Pao₂ and increasing Paco₂. Monitor oxygen saturation prior to and after suctioning using pulse oximetry. This assessment provides an evaluation of the effectiveness of therapy.
- **Option D:** Brush teeth two to three times per day with a soft toothbrush. Chlorhexidine-based rinses may also be incorporated into oral care protocols. Oral care reduces colonization of the oropharynx with respiratory pathogens that can be aspirated into the lungs.

45. Sarah, a hospice nurse visits a client dying of ovarian cancer. During the visit, the client expresses that “If I can just live long enough to attend my daughter’s graduation, I’ll be ready to die.” Which phrase of coping is this client experiencing?

- A. Anger
- B. Denial
- C. Bargaining
- D. Depression

Correct Answer: C. Bargaining

- **Option C:** Denial, bargaining, anger, depression, and acceptance are recognized stages that a person facing a life-threatening illness experience. Bargaining identifies a behavior in which the individual is willing to do anything to avoid loss or change prognosis or fate.
- **Option A:** Anger also may be the first response to upsetting news and the predominant theme is “why me?” or the blaming of others.
- **Option B:** Denial is expressed as shock and disbelief and may be the first response to hearing bad news.
- **Option D:** Depression may be manifested by hopelessness, weeping openly, or remaining quiet or withdrawn.

46. Which of the following definitions best describes gastritis?

- A. Erosion of the gastric mucosa.
- B. Inflammation of a diverticulum.
- C. Inflammation of the gastric mucosa.
- D. Reflux of stomach acid into the esophagus.

Correct Answer: C. Inflammation of the gastric mucosa.

Gastritis is an inflammation of the gastric mucosa that may be acute (often resulting from exposure to local irritants) or chronic (associated with autoimmune infections or atrophic disorders of the stomach). The current classification of gastritis centers on time course (acute versus chronic), histological features, anatomic distribution, and underlying pathological mechanisms. Acute gastritis will evolve to chronic, if not treated.

- **Option A:** Erosion of the mucosa results in ulceration. With peptic ulcers, there is usually a defect in the mucosa that extends to the muscularis mucosa. Once the protective superficial mucosal layer is damaged, the inner layers are susceptible to acidity. Further, the ability of the mucosal cells to secrete bicarbonate is compromised.
- **Option B:** Inflammation of a diverticulum is called diverticulitis. Acute diverticulitis is inflammation due to micro-perforation of a diverticulum. The diverticulum is a sac-like protrusion of the colon wall. Diverticulitis can present in about 10% to 25% of patients with diverticulosis. Diverticulitis can be simple or uncomplicated and complicated.
- **Option D:** Reflux of stomach acid is known as gastroesophageal disease. Gastroesophageal reflux disease (GERD) is a chronic gastrointestinal disorder characterized by the regurgitation of gastric

contents into the esophagus. It is one of the most commonly diagnosed digestive disorders in the US with a prevalence of 20%, resulting in a significant economic burden in direct and indirect costs and adversely affects the quality of life.

47. 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 crackles, 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

48. Physician's orders for a client with acute pancreatitis include the following: strict NPO, NG tube to low intermittent suction. The nurse recognizes that these interventions will:

- A. Reduce the secretion of pancreatic enzymes
- B. Decrease the client's need for insulin
- C. Prevent secretion of gastric acid
- D. Eliminate the need for analgesia

Correct Answer: A. Reduce the secretion of pancreatic enzymes

- **Option A:** Placing the client on strict NPO status will stop the inflammatory process by reducing the secretion of pancreatic enzymes. The use of low, intermittent suction prevents the release of secretion in the duodenum.
- **Option B:** The client requires exogenous insulin.

- Options C and D: These interventions do not prevent the secretion of gastric acid and do not eliminate the need for analgesia.

49. Propranolol (Inderal) is used in the mental health setting to manage which of the following conditions?

- A. Antipsychotic-induced akathisia and anxiety.
- B. Obsessive-compulsive disorder (OCD) to reduce ritualistic behavior.
- C. Delusions for clients suffering from schizophrenia.
- D. The manic phase of bipolar illness as a mood stabilizer.

Correct Answer: A. Antipsychotic-induced akathisia and anxiety

Propranolol is a potent beta-adrenergic blocker and produces a sedating effect, therefore it is used to treat antipsychotic-induced akathisia and anxiety. Off-label use of propranolol includes the use in performance anxiety, which is a subset of a social phobia presenting with tachycardia, sweating, and flushing that occurs secondary to increased activation of the sympathetic nervous system.

- **Option B:** OCD is most commonly treated with SSRIs, and at much higher doses than used to treat anxiety or depression. FDA-approved SSRIs include fluoxetine, fluvoxamine, paroxetine, and sertraline. The following are appropriate drugs and doses typically used to treat OCD: fluoxetine 80 mg, escitalopram 40 mg, 300 mg fluvoxamine, and 100 mg paroxetine.
- **Option C:** For the initial treatment of acute psychosis, it is recommended to commence an oral second-generation antipsychotics (SGA) such as aripiprazole, olanzapine, risperidone, quetiapine, asenapine, lurasidone, sertindole, ziprasidone, aripiprazole, molindone, iloperidone, etc. Sometimes, if clinically needed, alongside a benzodiazepine such as diazepam, clonazepam, or lorazepam to control behavioral disturbances and non-acute anxiety. First-generation antipsychotic (FGA) like trifluoperazine, Fluphenazine, haloperidol, pimozide, sulpiride, flupentixol, chlorpromazine, etc. are not commonly used as the first line but can be used.
- **Option D:** A large meta-analysis of medications used in acute mania showed that atypical antipsychotics were more effective than mood stabilizers for this purpose but not necessarily for maintenance of bipolar disorder. The most effective medications are risperidone, olanzapine, and haloperidol. Lithium, quetiapine, and aripiprazole were comparatively effective. Valproic acid, carbamazepine, and ziprasidone were more efficacious than placebo but less so than their previously mentioned competitors.

50. What clinical manifestation should alert the nurse to possible carbon monoxide poisoning in a client who experienced a burn injury during a house fire?

- A. Pulse oximetry reading of 80%
- B. Expiratory stridor and nasal flaring
- C. Cherry red color to the mucous membranes
- D. Presence of carbonaceous particles in the sputum

Correct Answer: C. Cherry red color to the mucous membranes

The saturation of hemoglobin molecules with carbon monoxide and the subsequent vasodilation induces a “cherry red” color of the mucous membranes in these clients. Cherry-red skin color associated with severe carbon monoxide poisoning is seen in only 2-3% of symptomatic cases. Skin may develop erythematous lesions and bulla, especially over bony prominences.

- **Option A:** Carbon monoxide quickly binds with hemoglobin with an affinity greater than that of oxygen to form COHb. The resulting decrease in arterial oxygen content and shift of the oxyhemoglobin dissociation curve to the left explains the acute hypoxic symptoms (primarily neurologic and cardiac) seen in patients with acute poisoning.
- **Option B:** Patients suffering from smoke inhalation may have symptoms of burning sensation in the nose or throat (which is often caused by an irritant chemical toxin), a cough with increased sputum production, stridor, and dyspnea with rhonchi or wheezing.
- **Option D:** The other manifestations are associated with inhalation injury, but not specifically carbon monoxide poisoning. Physical examination should include looking for facial burns, such as loss of facial and intranasal hair as well as carbonaceous material or soot in the mouth or sputum.

51. The nurse performs an initial abdominal assessment on a patient newly admitted for abdominal pain. The nurse hears what she describes as “clicks and gurgles in all four quadrants” as well as “swishing or buzzing sound heard in one or two quadrants.” Which of the following statements is correct?

- A. The frequency and intensity of bowel sounds varies depending on the phase of digestion.
- B. In the presence of intestinal obstruction, bowel sounds will be louder and higher pitched.
- C. A swishing or buzzing sound may represent the turbulent blood flow of a bruit and is not normal.
- D. All of the above.

Correct Answer: D. All of the above.

All of the statements are true. Abdominal examination can give diagnostic clues regarding most gastrointestinal and genitourinary pathologies and may also give insight regarding abnormalities of other organ systems. A well-performed abdominal examination decreases the need for detailed radiological investigations also plays an important role in patient management.

- **Option A:** The gurgles and clicks described in the question represent normal bowel sounds, which vary with the phase of digestion. The diaphragm of the stethoscope should be placed on the right side of the umbilicus to listen to the bowel sounds, and their rate should be calculated after listening for at least two minutes. Normal bowel sounds are low-pitched and gurgling, and the rate is normally 2-5/min.
- **Option B:** Intestinal obstruction causes the sounds to intensify as the normal flow is blocked by the obstruction. Absent bowel sounds may indicate paralytic ileus and hyperactive rushes (borborygmi) are usually present in small bowel obstruction and sometimes may be auscultated in lactose intolerance
- **Option C:** The swishing and buzzing sound of turbulent blood flow may be heard in the abdomen in the presence of abdominal aortic aneurysm, for example, and should always be considered abnormal. The diaphragm should be placed above the umbilicus to listen for an aortic bruit and then moved 2 cm above and lateral to the umbilicus to listen for a renal bruit. The presence of the former indicates an abdominal aortic aneurysm and the latter indicates renal artery atherosclerosis.

52. Baby Angela was rushed to the Emergency Room following her mother's complaint that the infant has been irritable, difficult to breastfeed, and has had diarrhea for the past 3 days. The infant's respiratory rate is elevated and the fontanelles are sunken. The Emergency Room physician orders ABGs after assessing the ABCs. The results from the ABG results show pH 7.39, PaCO₂ 27 mmHg, and HCO₃ 19 mEq/L. What does this mean?

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

Correct Answer: C. Metabolic Acidosis, Fully Compensated

Baby Angela has metabolic acidosis due to decreased HCO₃ and slightly acidic pH. Her pH value is within the normal range which made the result fully compensated.

53. A child diagnosed with intellectual disability (ID) is under the supervision of Nurse Tasha. The nurse is aware that the signs and symptoms of mild ID include which of the following?

- A. Few communication skills
- B. Lateness in walking
- C. Mental age of a toddler
- D. Noticeable developmental delays

Correct Answer: B. Lateness in walking

Mild intellectual disability is minimally noticeable in young children, with one of the signs being a delay in achieving developmental milestones, such as walking at a later stage. Individuals with an intellectual disability have neurodevelopmental deficits characterized by limitations in intellectual functioning and adaptive behavior. These disabilities originate and manifest before the age of 18 and can be associated with a considerable number of related and co-occurring problems.

- **Option A:** Severe intellectual disability is marked by little or no communication skills. Intellectual functioning is generally called intelligence and includes a wide range of mental activities such as the ability of logical reasoning and practical intelligence (problem-solving), ability in learning, verbal skills, and so on.
- **Option C:** Severe intellectual disability is marked by the mental age of a toddler. Concerning clinical history, symptoms of intellectual disability usually begin during childhood or adolescence. Moreover, delays in language or motor skills may be observed by age two. Nevertheless, a significant number of children with mild levels of intellectual disability may not get identified until school age.
- **Option D:** Children with moderate intellectual disability have noticeable developmental delays. All skills are learned throughout development and performed in response to common problems and simple/complex tasks as well as expectations from our community and society. Obviously, these behavioral responses become progressively more complex with age.

54. Archie is a child with iron deficiency anemia. He is required to receive elemental iron therapy at 6 mg/kg/day in three divided doses. He weighs 44 lbs. How many milligrams of iron should he receive per dose?

- A. 20 mg/dose
- B. 40 mg/dose
- C. 60 mg/dose
- D. 120 mg/dose

Correct Answer: B. 40 mg/dose

The child weighs 44 lbs, which is equal to 20 kg (1 kg=2.2 lb;44/2.2=20kg). Elemental iron therapy is ordered at 6 mg/kg/day in three doses. Therefore, the child receives 120 mg/day (6 mg/20 kg/day=120), divided into three doses (120/3), which is equal to 40 mg/dose.

- **Option A:** There are currently two forms of low-molecular-weight iron dextran available on the market in North American. Both come as injectable solutions [intravenous (IV) or intramuscular (IM)] containing 50 mg/mL of elemental iron. The incidence of toxicity relative to high-molecular-weight preparations is lower with low-molecular-weight iron dextran.
- **Option C:** As per the manufacturer, a test dose of 25 mg (0.5 mL) followed by 1 hour of observation is necessary before administering the remainder of the calculated required dose to monitor for anaphylactoid reactions. Intramuscular injections should be administered to the upper outer quadrant of the buttock using the Z – track technique (lateral displacement of skin prior to injection).
- **Option D:** If total dose calculations exceed the daily allowance of administration, smaller incremental daily doses may be used until the patient achieves the total dose requirement. All doses require administration at a maximum rate of 50 mg (1 mL) per minute. No dosage adjustments are necessary for renal and/or hepatic impairment.

55. The effectiveness of monoamine oxidase (MAO) inhibitor drug therapy in clients with posttraumatic stress disorder can be demonstrated by which of the following client self-reports?

- A. "I'm sleeping better and don't have nightmares".
- B. "I'm not losing my temper as much".
- C. "I've lost my craving for alcohol".
- D. "I've lost my phobia for water".

Correct Answer: A. "I'm sleeping better and don't have nightmares"

MAO inhibitors are used to treat sleep problems, nightmares, and intrusive daytime thoughts in individuals with posttraumatic stress disorder. An examination of the available literature supports the efficacy of monoamine oxidase inhibitors (MAOIs) in treating posttraumatic stress disorder (PTSD). This effect may or may not be independent of the response of symptoms of major depression; there is suggestive but inconclusive evidence supporting both.

- **Option B:** Monoamine oxidase inhibitors (MAOIs) were first introduced in the 1950s. They are a separate class from other antidepressants, treating different forms of depression as well as other nervous system disorders such as panic disorder, social phobia, and depression with atypical

features.

- **Option C:** Furthermore, examples of neurological disorders that can benefit from MAOIs are patients with Parkinson disease as well as those diagnosed with multiple system atrophy. Multiple system atrophy is a neurodegenerative disease that includes symptoms affecting movement as well as blood pressure.
- **Option D:** MAO inhibitors aren't used to help control flashbacks or phobias or to decrease the craving for alcohol. Monoamine oxidase inhibitors are responsible for blocking the monoamine oxidase enzyme. The monoamine oxidase enzyme breaks down different types of neurotransmitters from the brain: norepinephrine, serotonin, dopamine, as well as tyramine. MAOIs inhibit the breakdown of these neurotransmitters thus, increasing their levels and allowing them to continue to influence the cells that have been affected by depression.

56. The most important factor in regulating the caliber of blood vessels, which determines resistance to flow, is:

- A. Hormonal secretion
- B. Independent arterial wall activity.
- C. The influence of circulating chemicals
- D. The sympathetic nervous system

Correct Answer: D. The sympathetic nervous system

The autonomic nervous system exerts influence over the organ systems of the body to upregulate and downregulate various functions. The two aspects of the ANS operate as opposing functions that act to achieve homeostasis. The sympathetic nervous system, also known as the “fight or flight” system, increases energy expenditure and inhibits digestion.

- **Option A:** Hormones of the endocrine system are a vast topic with numerous hormones involved, affecting virtually every organ in the human body. Human physiological processes such as homeostasis, metabolic demand, development, and reproduction are all possible because of hormones and the processes mediated by their actions.
- **Option B:** A major role of large arteries is to dampen the pressure oscillations resulting from intermittent LV ejection, which transforms highly pulsatile flow and pressure into a pattern of more continuous flow in peripheral tissues and organs. During systole, roughly 40% to 50% of stroke volume is forwarded directly to peripheral tissues, whereas the remainder is stored in the distended aorta and central arteries. Approximately 10% of the energy produced by the heart is diverted for the distension of arteries and “stored” in the walls.
- **Option C:** The microcirculation deserves special attention since it is across the walls of these vessels that the exchange of oxygen, among other substances, takes place. Furthermore, the arterioles, also known as the “resistance” vessels, are the primary site for control of blood flow. Thus, the blood vessels of the microcirculation play important roles in both the convective (arterioles) and diffusive (capillaries) transport of oxygen.

57. A client is admitted with acute adrenal crisis. During the intake assessment, the nurse can expect to find that the client has:

- A. Low blood pressure

- B. Slow, regular pulse
- C. Warm, flushed skin
- D. Increased urination

Correct Answer: A. Low blood pressure

- Option A: Acute adrenal crisis is a life-threatening medical emergency caused by a lack of cortisol, a hormone that is responsible for maintaining the blood pressure. Low levels of cortisol can cause a decrease in blood pressure.
- Option B: The pulse would be rapid and irregular.
- Option C: The skin would be cool and pale.
- Option D: The urinary output would be decreased.

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

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

Correct Answer: A. Administer regular insulin intravenously

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

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

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

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

D. Vitamin K

Correct Answer: B. Corticosteroids

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

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

60. A client had a total thyroidectomy yesterday. The client is complaining of tingling around the mouth and in the fingers and toes. What would the nurse's next action be?

- A. Obtain a crash cart
- B. Check the calcium level
- C. Assess the dressing for drainage
- D. Assess the blood pressure for hypertension

Correct Answer: B. Check the calcium level

The parathyroid glands are responsible for calcium production and can be damaged during a thyroidectomy. The tingling is due to low calcium levels. Evaluate reflexes periodically. Observe for neuromuscular irritability: twitching, numbness, paresthesias, positive Chvostek's and Trousseau's signs, seizure activity.

- **Option A:** The crash cart would be needed in respiratory distress but would not be the next action to take. Hypocalcemia with tetany (usually transient) may occur 1–7 days postoperatively and indicates hypoparathyroidism, which can occur as a result of inadvertent trauma to or partial-to-total removal of the parathyroid gland(s) during surgery.
- **Option C:** The drainage would occur in hemorrhage. Check dressing frequently, especially the posterior portion. If bleeding occurs, the anterior dressing may appear dry because blood pools dependently.
- **Option D:** Hypertension occurs in a thyroid storm. Monitor vital signs noting elevated temperature, tachycardia, arrhythmias, respiratory distress, cyanosis. Manipulation of the gland during subtotal thyroidectomy may result in increased hormone release, causing thyroid storm.

61. Which of the following should be included in the health teachings among clients receiving Valium:

- A. Avoid taking CNS depressants like alcohol.
- B. There are no restrictions in activities.
- C. Limit fluid intake.
- D. Any beverage like coffee may be taken.

Correct Answer: A. Avoid taking CNS depressants like alcohol.

Valium is a CNS depressant. Taking it with other CNS depressants like alcohol; potentiates its effect. The toxic-to-therapeutic ratio of benzodiazepines is very high, making them relatively safe medications. However, the potential of overdose from diverted diazepam always exists when combined with opioids, alcohol, or other centrally acting agents. Overdose in adults frequently involves the co-ingestion of other CNS depressants, which work synergistically to increase toxicity.

- **Option B:** The client should be taught to avoid activities that require alertness. In mild cases, lethargy, drowsiness, and confusion are common symptoms. In cases of severe overdose, symptoms manifest as ataxia, diminished reflexes, hypotonia, hypotension, respiratory depression, coma (rarely), and death (very rarely).
- **Option C:** Valium causes dry mouth so the client must increase her fluid intake. It is crucial to monitor respiratory and cardiovascular status, blood pressure, heart rate, and symptoms of anxiety in patients taking diazepam. With long-term use, monitor liver enzymes, CBC, and for signs of propylene glycol toxicity, including serum creatinine, BUN, serum lactate, and osmolality gap. With critically ill patients, monitor the depth of sedation.
- **Option D:** Stimulants must not be taken by the client because it can decrease the effect of Valium. Potent inhibition of the 2C19 enzyme by certain drugs (fluoxetine and chloramphenicol) and 3A4 enzymes by certain medications (ketoconazole, protease inhibitors, erythromycin) may cause increased levels of diazepam, while inducers of 2C19 (rifampicin and prednisone) and 3A4 (carbamazepine, topiramate, phenytoin, St. John's wort, rifampin, or barbiturates) may cause lower levels. Metabolites of diazepam are conjugated with glucuronide and excreted almost entirely in the urine.

62. To ensure adequate lactation the nurse should teach the mother to:

- A. Breastfeed the baby on self-demand day and night.
- B. Feed primarily during the day and allow the baby to sleep through the night.
- C. Feed the baby every 3-4 hours following a strict schedule.
- D. Breastfeed when the breasts are engorged to ensure adequate supply.

Correct Answer: A. Breastfeed the baby on self-demand day and night

Feeding on self-demand means the mother feeds the baby according to the baby's need. Therefore, this means there will be regular emptying of the breasts, which is essential to maintain adequate lactation.

- **Option B:** Some newborns wake up and breastfeed every 2 to 3 hours like clockwork, but that's not always the case. The baby may want to breastfeed many times in a short period, and then he might sleep for a little longer. This type of feeding is called cluster or bunch feeding. Other babies are sleepy, especially in the very early days, so the mother may have to wake the baby up to breastfeed. All of these patterns are normal. As long as the child is getting enough breast milk and growing well, there is nothing to worry.
- **Option C:** On average, a breastfed newborn eats approximately every 2 to 3 hours around the clock. That's about 8 to 12 times in a 24-hour period. Newborn have little stomachs and ?breast milk is easily digested, so they should breastfeed often.
- **Option D:** In the beginning, breastfeed the newborn for as long as she will stay on the breast. Continue to breastfeed until there are signs that the child is satisfied. This way, the mother can be sure that the baby is getting enough breast milk at each feeding. Plus, keeping the baby

breastfeeding longer, stimulates milk production and helps the mother to build up her breast milk supply.

63. A nursing instructor asks a nursing student who is preparing to assist with the assessment of a pregnant client to describe the process of quickening. Which of the following statements if made by the student indicates an understanding of this term?

- A. "It is the irregular, painless contractions that occur throughout pregnancy."
- B. "It is the soft blowing sound that can be heard when the uterus is auscultated."
- C. "It is the fetal movement that is felt by the mother."
- D. "It is the thinning of the lower uterine segment."

Correct Answer: C. "It is the fetal movement that is felt by the mother."

Quickening is fetal movement and may occur as early as the 16th and 18th week of gestation, and the mother first notices subtle fetal movements that gradually increase in intensity. A thinning of the lower uterine segment occurs about the 6th week of pregnancy and is called Hegar's sign.

- **Option A:** Braxton Hicks contractions are irregular, painless contractions that may occur throughout the pregnancy.
- **Option B:** Uterine souffle or placental souffle is a soft, blowing sound heard using a stethoscope, usually in the second trimester of pregnancy (13–28 weeks). This sound is heard most clearly in the lower part of the uterus and is synchronous with the pulse of the mother.
- **Option D:** The lower uterine segment, therefore, is defined as the portion of the uterine musculature which must undergo circumferential dilatation during labor, its extent being dependent upon the size of the presenting part and its level in the uterine cavity. The available evidence suggests that brachystasis, with retraction, occurs in this segment just as it does in the upper, and that thinning in the first stage of labor is due not to passive elongation, but rather to active shortening of the cup-shaped lower pole with dilatation as it is pulled up about the presenting part.

64. Which of the following medications given to a 12-year-old client for the treatment of deep partial-thickness burn is the most important to double-check with another licensed nurse before administering it?

- A. Aloe Vera Relief Burn spray.
- B. Silver Sulfadiazine ointment.
- C. Omeprazole 20 mg slow IV push.
- D. Amitriptyline (Elavil) 50 mg PO.

Correct Answer: D. Amitriptyline (Elavil) 50 mg PO.

Amitriptyline (Elavil) is useful in the management of neuropathic pain following burn injury and since it is an antidepressant if given with a child, utmost precaution is given. The FDA has issued a black box warning regarding the use of amitriptyline in adolescents and young adults (ages less than 24 years). It can increase the risk of suicidal ideation and behavior.

- **Option A:** Omeprazole is indicated for the short-term treatment of peptic ulcer disease in adults where most patients heal within four weeks. Patients with duodenal ulcer disease and H. pylori infection disease that is active for up to one year may benefit from combination therapy that includes omeprazole with clarithromycin, amoxicillin, and metronidazole.
- **Option B:** Silver sulfadiazine is a medication used in the prevention, management, and treatment of burn wound infections. It is a heavy metal topical agent with antibacterial properties. Typically burn dressings consist of topical silver sulfadiazine combined with fine mesh gauze and are usable in both the inpatient and outpatient settings.
- **Option C:** All health facilities practice double-checking of medications prior to administration, Of all the medications given, Amitriptyline is the most important to double-check with another licensed nurse.

65. A nurse is assisting with planning care for a client with an internal radiation implant. Which of the following should be included in the plan of care? Select all that apply.

- A. Wearing gloves when emptying the client's bedpan
- B. Keeping all linens in the room until the implant is removed
- C. Wearing a film (dosimeter) badge when in the client's room
- D. Wearing a lead apron when providing direct care to the client
- E. Placing the client in a semiprivate room at the end of the hallway

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

A private room with a private bath is essential if a client has an internal radiation implant. This is necessary to prevent the accidental exposure of other clients to radiation. The remaining options identify interventions that are necessary for a client with a radiation device.

- **Option A:** Use appropriate contact precautions when handling the client's linens, urine, saliva, perspiration, vomit, or feces. They may be potentially radioactive. Wear gloves and gowns to protect yourself.
- **Option B:** Inform the client that he is not radioactive instead that the inserted implants are. This is why certain precautions have to be taken, to reduce exposure to others.
- **Option C:** Wear a detection badge to determine how much exposure you have had to your client's radioactive implants in order to prevent over-exposure.
- **Option D:** Wear a lead apron when caring for the client. Always use the principle of time, distance, and shielding. spend as little time in the room as you can, stay far away, and protect yourself with appropriate clothing.
- **Option E:** Place the client in a private room with his bed in the center of the room. The radiation may be able to penetrate the walls if they are not lead-lined, therefore having the bed in the center of the room reduces the risk of radiation leak outside of the room.

66. The newly hired nurse at Nurseslabs Medical Center is assessing a client who abuses barbiturates and benzodiazepine. The nurse would observe for evidence of which withdrawal symptoms?

- A. Respiratory depression, stupor, and bradycardia
- B. Anxiety, tremors, and tachycardia
- C. Muscle aches, cramps, and lacrimation
- D. Paranoia, depression, and agitation

Correct Answer: B. Anxiety, tremors, and tachycardia

Barbiturates and benzodiazepine are CNS depressants; therefore, withdrawal symptoms are related to CNS stimulation caused by the rebounding of neurotransmitters (norepinephrine). Symptoms include increased anxiety, tremors, and vital sign changes (such as tachycardia and hypertension). Chronic abusers can develop severe withdrawal symptoms within 8 to 15 hours of cessation. Symptoms include restlessness, tremors, hyperthermia, sweating, insomnia, anxiety, seizures, circulatory failure, and potentially death.

- **Option A:** Respiratory depression, stupor, and bradycardia are typically associated with an overdose—not withdrawal—of barbiturates or benzodiazepine. Symptoms of barbiturate toxicity vary from case to case, but commonly include difficulty thinking, decreased level of consciousness, bradycardia or rapid and weak pulse, poor coordination, vertigo, nausea, muscle weakness, thirst, oliguria, decreased temperature, and dilated or contracted pupils. Fatal cases are marked by coma, hypotension (low blood pressure), and respiratory depression (decreased efforts to breathe) evidenced by cyanosis and hypotension
- **Option C:** Muscle aches, cramps, and lacrimation are most commonly associated with withdrawal from opiates. According to Diagnostic and Statistical Manual of Mental Disorders (DSM–5) criteria, signs and symptoms of opioid withdrawal include lacrimation or rhinorrhea, piloerection “goose flesh,” myalgia, diarrhea, nausea/vomiting, pupillary dilation and photophobia, insomnia, autonomic hyperactivity (tachypnea, hyperreflexia, tachycardia, sweating, hypertension, hyperthermia), and yawning.
- **Option D:** Paranoia, depression, and agitation are usually associated with withdrawal from CNS stimulants, such as amphetamines or cocaine. Central nervous system (CNS) stimulants like cocaine and amphetamine can also produce withdrawal symptoms. Like opioids, the withdrawal symptoms are mild and not life-threatening. Often the individual will develop marked depression, excessive sleep, hunger, dysphoria, and severe psychomotor retardation but all vital functions are well preserved. Recovery is usually slow, and depression can last for several weeks.

67. Nurse Irish is aware that Ritalin is the drug of choice for a child with ADHD. The side effects of the following may be noted by the nurse:

- A. Increased attention span and concentration.
- B. Increase in appetite.
- C. Sleepiness and lethargy.
- D. Bradycardia and diarrhea.

Correct Answer: A. Increased attention span and concentration

The medication has a paradoxical effect that decreases hyperactivity and impulsivity among children with ADHD. Methylphenidate is FDA-approved for the treatment of attention deficit hyperactivity disorder (ADHD) in children and adults and as a second-line treatment for narcolepsy in adults. Children with a diagnosis of ADHD should be at least six years of age or older before being started on this medication. The treatment of both ADHD and narcolepsy have significantly better outcomes when

used concurrently with nonpharmacologic therapies (i.e., social skills training in ADHD or sleep hygiene measures in narcolepsy).

- **Option B:** Patients are more prone to become easily agitated, irritable, or depressed and go through mood swings/lability). While many of the common side effects can be relieved by adjusting the dosage or avoidance of an afternoon or evening dose, some require treatment emergently to prevent complications. While it rarely occurs, priapism is a medical emergency that requires immediate attention.
- **Option C:** Insomnia and nervousness are the most commonly reported adverse effects in patients on methylphenidate. Other frequent side effects mainly involve the CNS (dizziness, headache, tics, restlessness/akathisia), gastrointestinal (nausea/vomiting, dry mouth, decreased appetite, weight loss, abdominal pain), and cardiovascular systems (tachycardia, and palpitations).
- **Option D:** Side effects of Ritalin include anorexia, insomnia, diarrhea, and irritability. It is important to note that there have been reported cases of sudden death in both children and adults with a pre-existing structural cardiac abnormality. Stroke and myocardial infarction also have been observed in adults. Due to the risk of such fatal side effects, it is advisable to avoid methylphenidate in patients with a structural cardiac abnormality, cardiomyopathy, or arrhythmias.

68. A woman delivers a 3,250 g neonate at 42 weeks' gestation. Which physical finding is expected during an examination if this neonate?

- A. Abundant lanugo
- B. Absence of sole creases
- C. Breast bud of 1-2 mm in diameter
- D. Leathery, cracked, and wrinkled skin

Correct Answer: D. Leathery, cracked, and wrinkled skin.

- **Option D:** Neonatal skin thickens with maturity and is often peeling by postterm.

69. When teaching the family of a client with schizophrenia, the nurse should provide which information?

- A. Relapse can be prevented if the client takes the medication.
- B. Support is available to help family members meet their own needs.
- C. Improvement should occur if the client has a stimulating environment.
- D. Stressful family situations can precipitate a relapse in the client.

Correct Answer: B. Support is available to help family members meet their own needs.

Because family members of a client with schizophrenia face difficult situations and great stress, the nurse should inform them of support services that can help them cope with such problems. Provide information on client and family community resources for the client and family after discharge: day hospitals, support groups, organizations, psychoeducational programs, community respite centers (small homes), etc. Schizophrenia is an overwhelming disease for both the client and the family. Groups, support groups, and psychoeducational centers can help

- **Option A:** Assess the family members' current level of knowledge about the disease and medications used to treat the disease. Family might have misconceptions and misinformation about

schizophrenia and treatment, or no knowledge at all. Teach the client's and family's level of understanding and readiness to learn. Teach the client and family the warning symptoms of relapse. Rapid recognition of early warning symptoms can help ward off potential relapse when immediate medical attention is sought.

- **Option C:** The nurse should also teach them that environmental stimuli may precipitate symptoms. Inform the client family in clear, simple terms about psychopharmacologic therapy: dose, duration, indication, side effects, and toxic effects. Written information should be given to the client and family members as well. Understanding of the disease and the treatment of the disease encourages greater family support and client adherence.
- **Option D:** Although stress can trigger symptoms, the nurse shouldn't make the family feel responsible for relapses. Identify the family's ability to cope (e.g. experience of loss, caregiver burden, needed supports). Family's needs must be addressed to stabilize the family unit. Provide information on disease and treatment strategies at the family's level of understanding. Meet family members' needs for information.

70. When providing discharge teaching for a client with uric acid calculi, the nurse should make an instruction to avoid which type of diet?

- A. Low-calcium
- B. Low-oxalate
- C. High-oxalate
- D. High-purine

Correct Answer: D. High-purine

To control uric acid calculi, the client should follow a low-purine diet, which excludes high-purine foods such as organ meats. To prevent uric acid stones, cut down on high-purine foods such as red meat, organ meats, and shellfish, and follow a healthy diet that contains mostly vegetables and fruits, whole grains, and low-fat dairy products.

- **Option A:** A low-calcium diet decreases the risk for oxalate renal calculi. Limit sugar-sweetened foods and drinks, especially those that contain high fructose corn syrup. Limit alcohol because it can increase uric acid levels in the blood and avoid crash diets for the same reason.
- **Option B:** A low-oxalate diet is used to control calcium or oxalate calculi. Eating less animal-based protein and eating more fruits and vegetables will help decrease urine acidity and this will help reduce the chance for stone formation.
- **Option C:** Oxalate is a compound that is naturally found in most foods such as fruits, vegetables, nuts, grains, and seeds. It must be included in the diet. In addition to calcium oxalate stones, another common type of kidney stone is uric acid stones. Red meat, organ meats, and shellfish have high concentrations of a natural chemical compound known as purines.

71. Androgens are medically indicated in the management of all of the following except:

- A. Hirsutism
- B. Hypogonadism
- C. Metabolic stimulation in prepubertal boys

D. Bodybuilding

Correct Answer: D. Bodybuilding

Androgens can be dangerous drugs and are medically indicated only in severe conditions, such as female hirsutism or male hypogonadism, and as metabolic stimulators. Anabolic androgenic steroids are used by some bodybuilders to enhance performance. While the cardiovascular implications of supraphysiological androgen levels require further clarification, use is associated with sudden death, left ventricular hypertrophy, thrombo-embolism and cerebro-vascular events.

- **Option A:** Hirsutism is a condition in women that results in excessive growth of dark or coarse hair in a male-like pattern — face, chest and back. With hirsutism, extra hair growth often arises from excess male hormones (androgens), primarily testosterone.
- **Option B:** 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.
- **Option C:** Prepubertal patients are able to increase their plasma concentration of testosterone after an acute stimulation with HCG provided they have some testicular tissue. This test is useful in detecting the presence of intra abdominal testes before puberty.

72. When assessing a client during her first prenatal visit, the nurse discovers that the client had a reduction mammoplasty. The mother indicates she wants to breast-feed. What information should the nurse give to this mother regarding breastfeeding success?

- A. "It's contraindicated for you to breastfeed following this type of surgery."
- B. "I support your commitment; however, you may have to supplement each feeding with formula."
- C. "You should check with your surgeon to determine whether breast-feeding would be possible."
- D. "You should be able to breastfeed without difficulty."

Correct Answer: B. "I support your commitment; however, you may have to supplement each feeding with formula."

Recent breast reduction surgeries are done in a way to protect the milk sacs and ducts, so breastfeeding after surgery is possible. Still, it's good to check with the surgeon to determine what breast reduction procedure was done. There is the possibility that reduction surgery may have decreased the mother's ability to meet all of her baby's nutritional needs, and some supplemental feeding may be required. Preparing the mother for this possibility is extremely important because the client's psychological adaptation to mothering may be dependent on how successfully she breast-feeds.

- **Option A:** While there is evidence that both breastfeeding and breast reduction surgery are beneficial, it is unknown whether breast reduction surgery impacts breastfeeding and whether any breast reduction technique differentially preserves the ability to breastfeed.
- **Option C:** Women considering breast reduction surgery should be told not only the name of the proposed breast reduction technique but its characteristics, including the extent the column of subareolar parenchyma will be preserved and pedicle width, to allow them to gain a better

understanding of its impact on breastfeeding.

- **Option D:** Breast reduction techniques have been in a continuous state of development since the early 1900s, with new techniques developed, refined, and modified by subsequent plastic surgeons. This has led to many diverse breast reduction techniques. Its effect on breastfeeding remains entirely unclear, so telling the client that she could breastfeed without difficulty would give her a false sense of reassurance.

73. Signs of hypoglycemia include:

- A. Fruity breath, thirst, flushed skin
- B. Diarrhea, itching, hypertension
- C. Anxiety, weakness, pallor, sweating
- D. Muscle ache, fever, thirst

Correct Answer: C. Anxiety, weakness, pallor, sweating

These are signs of hypoglycemia, along with restlessness, chills, confusion, nausea, hunger, tachycardia, weakness, or headache. Neurogenic signs and symptoms can either be adrenergic (tremor, palpitations, anxiety) or cholinergic (hunger, diaphoresis, paresthesias). Neurogenic symptoms and signs arise from sympathoadrenal involvement (either norepinephrine or acetylcholine release) in response to perceived hypoglycemia.

- **Option A:** These are signs of hyperglycemia. Symptoms of severe hyperglycemia include polyuria, polydipsia, and weight loss. As the patient's blood glucose increases, neurologic symptoms can develop. The patient may experience lethargy, focal neurologic deficits, or altered mental status. The patient can progress to a comatose state.
- **Option B:** Neuroglycopenic signs and symptoms are signs and symptoms that result from direct central nervous system (CNS) deprivation of glucose. These include behavioral changes, confusion, fatigue, seizure, coma, and potential death if not immediately corrected.
- **Option D:** Patients who have diabetes can present with symptoms of hypoglycemia at relatively higher serum glucose levels. The chronic hyperglycemia alters the "set point" in which neuroglycopenic/neurogenic symptoms become apparent. This phenomenon is referred to as "pseudohypoglycemia" because the serum glucose may be within normal range despite symptom presentation.

74. Emily is talking to her 6 year-old sister Julia. She asks why the sun shines so bright? Julia answered that "it always keeps her warm. What stage in the cognitive theory of development explains this?

- A. Formal operational
- B. Concrete operational
- C. Sensorimotor
- D. Preoperational

Correct Answer: D. Preoperational

Children in this stage tend to be egocentric and have difficulty taking the viewpoint of others. At this stage, kids learn through pretend play but still struggle with logic and taking the point of view of other

people. They also often struggle with understanding the idea of constancy.

- **Option A:** Children in this stage can think logically about abstract propositions and test hypotheses systematically. Teens begin to think more about moral, philosophical, ethical, social, and political issues that require theoretical and abstract reasoning.
- **Option B:** Children in this stage can think logically about objects and events. Their thinking becomes more logical and organized, but still very concrete. While children are still very concrete and literal in their thinking at this point in development, they become much more adept at using logic.
- **Option C:** Children in this stage obtain knowledge about the environment through the use of senses and reflexes. A child's entire experience at the earliest period of this stage occurs through basic reflexes, senses, and motor responses.

75. A patient with a pulmonary embolism is receiving anticoagulation with IV heparin. What instructions would you give the nursing assistant who will help the patient with activities of daily living? Select all that apply.

- A. Use a lift sheet when moving and positioning the patient in bed.
- B. Use an electric razor when shaving the patient each day.
- C. Use a soft-bristled toothbrush or tooth sponge for oral care.
- D. Use a rectal thermometer to obtain a more accurate body temperature.
- E. Be sure the patient's footwear has a firm sole when the patient ambulates.

Correct Answers: A, B, C, and E.

All of the other instructions are appropriate to the care of a patient receiving anticoagulants. Risk for bleeding may arise in any condition that disturbs the "close circuit" integrity of the circulatory system. Bleeding is the primary complication of anticoagulant therapy and is a risk of all anticoagulants even when maintained within the usual therapeutic ranges.

- **Option A:** Educate the at-risk patient about precautionary measures to prevent tissue trauma or disruption of the normal clotting mechanisms. Information about precautionary measures lessens the risk for bleeding.
- **Option B:** Be careful when using sharp objects like scissors and knives. Use an electric razor for shaving (not razor blades). The patient needs to avoid situations that may cause tissue trauma and increase the risk for bleeding.
- **Option C:** Use a soft-bristled toothbrush and nonabrasive toothpaste. Avoid the use of toothpicks and dental floss. This method providing oral hygiene reduces trauma to oral mucous membranes and the risk for bleeding from the gums.
- **Option D:** While a patient is receiving anticoagulation therapy, it is important to avoid trauma to the rectal tissue, which could cause bleeding (e.g., avoid rectal thermometers and enemas). These invasive devices or medications may cause trauma to the mucous membranes that line the rectum or vagina.
- **Option E:** Educate the patient and family members about signs of bleeding that need to be reported to a health care provider. Early evaluation and treatment of bleeding by a health care provider reduces the risk for complications from blood loss.

76. A 26-year old multigravida is 14 weeks pregnant and is scheduled for an alpha-fetoprotein test. She asks the nurse, "What does the alpha-fetoprotein test indicate?" The nurse bases a response on the knowledge that this test can detect:

- A. Kidney defects
- B. Cardiac defects
- C. Neural tube defects
- D. Urinary tract defects

Correct Answer: C. Neural tube defects.

The alpha-fetoprotein test detects neural tube defects and Down syndrome. Alpha-fetoprotein (AFP) is a plasma protein produced by the embryonic yolk sac and the fetal liver. AFP levels in serum, amniotic fluid, and urine functions as a screening test for congenital disabilities, chromosomal abnormalities, as well as some other adult occurring tumors and pathologies.

- **Option A:** In some cases, one or both kidneys may fail to develop. In other instances, an abnormality may be present that blocks the outflow of urine. This blockage may cause urine to back up into the kidney, a condition called hydronephrosis, which causes the kidney to appear enlarged on the ultrasound test. Another common abnormality is called reflux. This occurs when a valve-like mechanism at the point where the ureter joins the bladder does not work, allowing urine to wash back up into the kidney.
- **Option B:** The baby's heart begins to form immediately after conception and is complete by eight week's gestation. The heart begins as a tube-shaped structure that twists and divides to form the heart and heart valves. A congenital heart defect usually occurs because the heart does not twist or divide normally. Some mothers wonder if drugs, alcohol, or medications contributed to their child's heart defect. In most cases, we don't know why these defects occur. Although, some heart defects can run in families or be related to a disease the mother has, diabetes mellitus, for example.
- **Option D:** Common birth defects of the urinary system include hypospadias, obstructive defects of the renal pelvis, and renal agenesis. Hypospadias is characterized by the location of the urethral opening on the underside of the penis. Obstructive defects of the renal pelvis prevent urine from entering the bladder.

77. Referencing the image below, what is the name of the structure marked #3.

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

J. Renal pyramid

Correct answer: #3 is Option E. arcuate blood vessels

arcuate blood vessels are the arteries and veins that run parallel to the kidney surface at the corticomedullary junction, at the base of the pyramids. They are branches of the interlobar arteries and anastomose (connect) with each other to form a network of vessels that supply blood to the renal cortex and the renal medulla.

78. The term “blue bloater” refers to which of the following conditions?

- A. Adult respiratory distress syndrome (ARDS)
- B. Asthma
- C. Chronic obstructive bronchitis
- D. Emphysema

Correct Answer: C. Chronic obstructive bronchitis

Clients with chronic obstructive bronchitis appear bloated; they have large barrel chests and peripheral edema, cyanotic nail beds, and, at times, circumoral cyanosis. People with chronic bronchitis are sometimes called “blue bloaters” because of their bluish-colored skin and lips. Blue bloaters often take deeper breaths but can’t take in the right amount of oxygen.

- **Option A:** Clients with ARDS are acutely short of breath and frequently need intubation for mechanical ventilation and large amounts of oxygen. Clients with ARDS have acute symptoms and typically need large amounts of oxygen. Acute respiratory distress syndrome (ARDS) is a life-threatening condition characterized by poor oxygenation and non-compliant or “stiff” lungs. The disorder is associated with capillary endothelial injury and diffuse alveolar damage. Once ARDS develops, patients usually have varying degrees of pulmonary artery vasoconstriction and may subsequently develop pulmonary hypertension.
- **Option B:** Clients with asthma don’t exhibit characteristics of chronic disease. Asthma is a common disease and has a range of severity, from a very mild, occasional wheeze to acute, life-threatening airway closure. It usually presents in childhood and is associated with other features of atopy, such as eczema and hayfever. Asthma is a condition of acute, fully reversible airway inflammation, often following exposure to an environmental trigger.
- **Option D:** Clients with emphysema appear pink and cachectic (a state of ill health, malnutrition, and wasting). Emphysema comes on very gradually and is irreversible. People with emphysema are sometimes called “pink puffers” because they have difficulty catching their breath and their faces redden while gasping for air.

79. When talking with a pregnant client who is experiencing aching swollen leg veins, the nurse would explain that this is most probably the result of which of the following?

- A. Thrombophlebitis
- B. Pregnancy-induced hypertension
- C. Pressure on blood vessels from the enlarging uterus
- D. The force of gravity pulling down on the uterus

Correct Answer: C. Pressure on blood vessels from the enlarging uterus

The pressure of the growing uterus on blood vessels results in an increased risk for venous stasis in the lower extremities. Subsequently, edema and varicose vein formation may occur.

- **Option A:** Thrombophlebitis is an inflammation of the veins due to thrombus formation. The hypercoagulable condition of the immediate antepartum period is responsible, in large part, for the development of superficial thrombophlebitis and DVT in 0.15% and 0.04% of this patient population, respectively.
- **Option B:** Pregnancy-induced hypertension is not associated with these symptoms. Pregnancy-induced hypertension is associated with significant elevations in total peripheral resistance, enhanced responsiveness to angiotensin II, and marked reductions in renal blood flow and glomerular filtration rate, and proteinuria.
- **Option D:** Gravity plays only a minor role with these symptoms. The center of gravity of pregnant women is displaced anteriorly and superiorly, compared to non-pregnant women. Furthermore, changes are seen in body shape. Because the volume of the lower trunk increases structurally, it becomes unstable. Nagai et al. reported that the postural sway of anterior-posterior movements increased during pregnancy because of the increase in the abdominal circumference

80. The nurse is evaluating neurological signs of the male client in spinal shock following spinal cord injury. Which of the following observations by the nurse indicates that spinal shock persists?

- A. Positive reflexes
- B. Hyperreflexia
- C. Inability to elicit a Babinski's reflex.
- D. Reflex emptying of the bladder.

Correct Answer: C. Inability to elicit a Babinski's reflex.

Resolution of spinal shock is occurring when there is a return of reflexes (especially flexors to noxious cutaneous stimuli), a state of hyperreflexia rather than flaccidity, reflex emptying of the bladder, and a positive Babinski's reflex. It is more appropriate to use the trauma activation code announced when a patient with spinal shock arrives at the emergency department, that way the trauma team can complete a full workup for the patient. The full spinal examination should include motor, sensory reflexes including bulbocavernosus reflex and anal wink reflex.

- **Option A:** Often it is observed that the patient starts losing neurologic function above the level of injury, which brings anxiety to an inexperienced provider prompting more imaging of the patient's spinal cord. Loss of function that happens several days post-injury above the level of the injury is mostly due to spinal cord pathways rearrangement.
- **Option B:** Once this process abates, the function above the injury returns to normal, although the exact time needed for this process is not precisely defined and could last from weeks to months. If a patient survives the initial injury but remains immobile, the area fills with gliotic tissue.
- **Option D:** Motor activity and strength decrease not only in the skeletal muscles but the motor activity of internal organs like bowel and bladder. This decrease leads to constipation and urinary retention. It is of utmost importance to record an American Spinal Injury Association (ASIA) score as prognostic long-term expectations can be made with fair accuracy before any discussion with family and the patient. While evaluating the patient, assume their spine is unstable and take all the necessary precautions to keep it stable until final imaging is obtained and stability is established.

81. Which laboratory test value is elevated in clients who smoke and can't be used as a general indicator of cancer?

- A. Acid phosphatase level
- B. Serum calcitonin level
- C. Alkaline phosphatase level
- D. Carcinoembryonic antigen level

Correct Answer: D. Carcinoembryonic antigen level

In clients who smoke, the level of carcinoembryonic antigen is elevated. Therefore, it can't be used as a general indicator of cancer. However, it is helpful in monitoring cancer treatment because the level usually falls to normal within 1 month if treatment is successful.

- **Option A:** An elevated acid phosphatase level may indicate prostate cancer. Prostatic acid phosphatase is a non-specific phosphomonoesterase synthesized in prostate epithelial cells and its level proportionally increases with prostate cancer progression.
- **Option C:** An elevated alkaline phosphatase level may reflect bone metastasis. When abnormal bone tissue is being formed by cancer cells, levels of alkaline phosphatase increase. Therefore, high levels of this enzyme could suggest that a patient has bone metastasis.
- **Option B:** An elevated serum calcitonin level usually signals thyroid cancer. Calcitonin can be measured as a blood test to help diagnose medullary thyroid cancer and its level can indicate the amount of medullary thyroid cancer present before thyroid surgery.

82. After receiving an oral dose of codeine for an intractable cough, the male client asks the nurse, "How long will it take for this drug to work?" How should the nurse respond?

- A. In 30 minutes
- B. In 1 hour
- C. In 2.5 hours
- D. In 4 hours

Correct Answer: A. In 30 minutes

Codeine's onset of action is 30 minutes. Within the nervous system, activation of mu receptors in the midbrain is the dominant mechanism of opioid-induced analgesia. The cough reflex primarily gets mediated through the opioid receptors present in the medulla.

- **Option B:** Its peak concentration occurs in about 1 hour. In patients who are on around-the-clock continuous codeine with breakthrough pain, short-acting opioids may be an option. The dose can vary from 15 mg to 120 mg a day. It is, however, indicated in the management of prolonged cough (in specific populations like lung cancer) usually as 30 mg every 4 to 6 hours as needed.
- **Option C:** Its half-life, in 2.5 hours. Initial dosing and titration can be individualized depending on the patient's health status, previous opioid exposure, attainment of therapeutic outcomes, and predicted or observed adverse events.

- **Option D:** Its duration of action is 4 to 6 hours. Codeine is useful in the treatment of various etiologies producing chronic cough. Also, 46% of patients with chronic cough do not have a distinct etiology despite a proper diagnostic evaluation. Codeine produces a decrease in cough frequency and severity in these patients.

83. A nurse is preparing to perform a fundal assessment on a postpartum client. The initial nursing action in performing this assessment is which of the following?

- A. Ask the client to turn on her side.
- B. Ask the client to lie flat on her back with the knees and legs flat and straight.
- C. Ask the mother to urinate and empty her bladder.
- D. Massage the fundus gently before determining the level of the fundus.

Correct Answer: C. Ask the mother to urinate and empty her bladder.

Before starting the fundal assessment, the nurse should ask the mother to empty her bladder so that an accurate assessment can be done. The postpartum recovery period covers the time period from birth until approximately six to eight weeks after delivery. This is a time of healing and rejuvenation as the mother's body returns to prepregnancy states.

- **Option A:** The nurse may place the woman in a supine position or Semi Fowlers position to avoid a decrease in her blood pressure for fundal assessment. Patients or a family member can be taught to assess the firmness of the fundus and to provide massage in the event of a boggy uterus or excessive bleeding. Patients are encouraged to void before palpation of the uterine fundus because a full bladder displaces the uterus and can lead to excessive bleeding.
- **Option B:** When the nurse is performing a fundal assessment, the nurse asks the woman to lie flat on her back with the knees flexed.
- **Option D:** Massaging the fundus is not appropriate unless the fundus is boggy and soft, and then it should be massaged gently until firm. By approximately one hour post-delivery, the fundus is firm and at the level of the umbilicus.

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

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

Correct Answer: C. 8

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

- **Option A:** Most laxatives are safe when used appropriately and in patients without contraindications. Bulk-forming agents like lactulose can have adverse effects like bloating, nausea, vomiting, and diarrhea. With prokinetic agents, adverse effects like a headache, nausea, and diarrhea have been described.
- **Option B:** Stimulant laxatives are known to cause abdominal pain. Cisapride and tegaserod were withdrawn from the market after cardiovascular adverse effects, including prolonged QT interval that increases the risk for Torsades de Pointes. Mineral oil can cause aspiration and lipid pneumonia.
- **Option D:** Osmotic agents like magnesium can cause metabolic disturbances, especially in the presence of renal involvement. Also, magnesium excretion depends on renal function, and its use requires caution in renal impairment. Osmotic agents result in volume load and should be used with caution in renal or cardiac dysfunction.

85. The client is arrogant and manipulative. In ensuring a therapeutic milieu, the nurse does one of the following:

- A. Agree on a consistent approach among the staff assigned to the client.
- B. Suggest that the client take a leading role in the social activities.
- C. Provide the client with extra time for one on one sessions.
- D. Allow the client to negotiate the plan of care.

Correct Answer: A. Agree on a consistent approach among the staff assigned to the client.

A consistent firm approach is appropriate. This is a therapeutic way to handle attempts of exploiting the weakness in others or create conflicts among the staff. Bargaining should not be allowed. Maintain a consistent approach, employ consistent expectations, and provide a structured environment. Clear and consistent limits and expectations minimize the potential for the client's manipulation of staff.

- **Option B:** This is not therapeutic because the client tends to control and dominate others. Use a calm and firm approach. Provides structure and control for a client who is out of control.
- **Option C:** Limits are set for interaction time. Alert staff if a potential for seclusion appears imminent. Usual priority of interventions would be firmly setting limits. If nursing interventions (quiet environment and firm limit setting) and chemical restraints (tranquilizers—e.g., haloperidol [Haldol]) have not helped dampen escalating manic behaviors, then seclusion might be warranted.
- **Option D:** Allowing the client to negotiate, may reinforce manipulative behavior. Remain neutral as possible; Do not argue with the client. The client can use inconsistencies and value judgments as justification for arguing and escalating mania.