Kevin's Review - 35 NCLEX Practice Questions

1. The following lab results are received for a patient. Which of the following results are abnormal? Select all that apply.

A. Hemoglobin 10.4 g/dL.

B. Total cholesterol 340 mg/dL.

C. Total serum protein 7.0 g/dL.

D. Glycosylated hemoglobin A1C 5.4%.

E. WBC count 5.5×10^9/L

Correct Answer: A & B

- **Option A:** CBC includes measurement of hemoglobin level in the blood. Normal concentrations of hemoglobin are approximately 13.5-18.0 grams per deciliter in men and 11.5-16.0 grams per deciliter in women. CBC also measures the size of erythrocytes through the mean corpuscular volume (MCV).
- **Option B:** Total cholesterol levels of 200 mg/dL or below are considered normal. Cholesterol level measurement is from serum. A non-fasting lipid test can be done anytime without fasting; a fasting lipid test requires a 12-hour fast except for water. Total and HDL cholesterol are measured directly from serum.
- **Option C:** The normal serum protein is 6 to 8 g/dl. A total serum protein test measures the total amount of protein in the blood. It also measures the amounts of two major groups of proteins in the blood: albumin and globulin. A test for total serum protein reports separate values for total protein, albumin, and globulin. Some types of globulin (such as alpha-1 globulin) also may be measured.
- **Option D:** The normal glycosylated hemoglobin A1C is between 4% and 5.6%. Glycosylated hemoglobin is a hemoglobin to which glucose is bound. Glycosylated hemoglobin is tested to monitor the long-term control of diabetes mellitus.
- **Option E:** The normal WBC count is 4.5 to 11.0×10?/L. The normal range of values for white blood cells is 4,000 to 11,000/mL. Anything below this range is leukopenia, and anything that exceeds this range qualifies as leukocytosis. Clinically, the complete blood count (CBC) test measures leukocytes. A CBC is frequently ordered to provide insight into disease processes and includes measurements of the leukocytes, as well as red blood cell and platelet totals.

2. Which of the following diets would be most appropriate for a client with COPD?

A. Low fat, low cholesterol

B. Bland, soft diet

C. Low-Sodium diet

D. High calorie, high-protein diet

Correct Answer: D. High-calorie, high-protein diet

The client should eat high-calorie, high-protein meals to maintain nutritional status and prevent weight loss that results from the increased work of breathing. The client should be encouraged to eat small, frequent meals. Eat 20 to 30 grams of fiber each day, from items such as bread, pasta, nuts, seeds, fruits and vegetables. Eat a good source of protein at least twice a day to help maintain strong respiratory muscles. Good choices include milk, eggs, cheese, meat, fish, poultry, nuts and dried beans

or peas.

- **Option A:** A low-fat, low-cholesterol diet is indicated for clients with coronary artery disease. Choose mono- and poly-unsaturated fats, which do not contain cholesterol. These are fats that are often liquid at room temperature and come from plant sources, such as canola, safflower and corn oils.
- **Option B:** Metabolism of carbohydrates produces the most carbon dioxide for the amount of oxygen used; metabolism of fat produces the least. For some people with COPD, eating a diet with fewer carbohydrates and more fat helps them breathe easier.
- **Option C:** The client with COPD does not necessarily need to follow a sodium-restricted diet, unless otherwise medically indicated. Choose complex carbohydrates, such as whole-grain bread and pasta, fresh fruits, and vegetables. Limit simple carbohydrates, including table sugar, candy, cake, and regular soft drinks.

3. A nurse is planning dietary counseling for the client taking triamterene (Dyrenium). The nurse plans to include which of the following in a list of foods that are acceptable?

A. Baked potato

B. Bananas

C. Oranges

D. Pears canned in water

Correct Answer: D. Pears canned in water

Triamterene is a potassium-sparing diuretic, and clients taking this medication should be cautioned against eating foods that are high in potassium, including many vegetables, fruits, and fresh meats. Because potassium is very water-soluble, foods that are prepared in water are often lower in potassium.

- **Option A:** Among the potassium-sparing diuretics, triamterene was the second drug of this class to be FDA approved for use in the US following spironolactone. However, despite these two drugs being within the same class and achieving the same desired result, they have two distinct mechanisms of action. While spironolactone is an aldosterone receptor antagonist operating at the late distal tubule and collecting tubules of the nephron on the apical aspect of these sites, triamterene acts at the same region of the nephrons but specifically at the epithelial sodium channels (ENaC) which are on the luminal side. These channels are transmembrane channels that operate to increase sodium uptake in exchange for secreting potassium.
- **Option B:** Potassium-sparing diuretics overdose is relatively rare, and there are no reports of deaths. With mild to moderate toxicity, there can be the development of nausea, vomiting, diarrhea, mild dehydration, and hyperkalemia. If there is severe toxicity, there can be the development of severe dehydration coupled with hyperkalemia, which may lead to dysrhythmias, tachycardia, hypotension, hyperactive deep tendon reflexes, and possibly changes in mental status.
- **Option C:** With the use of triamterene, it is essential to monitor specific labs and blood pressure of patients taking this drug in either its sole or combination form with HCTZ. BUN/creatinine, blood pressure, urine output, serum uric acid, CBC, and electrolytes in particular serum potassium should be monitored at a baseline when first placed on the drug. Once findings indicate the establishment of a stable tolerance of the drug, it can be periodically monitored, specifically when dose changes are made and during illnesses.

4. The nurse instructs a primipara about safety considerations for the neonate. The nurse determines that the client does not understand the instructions when she says:

A. “All neonates should be in an approved car seat when in an automobile.”

B. “It’s acceptable to prop the infant’s bottle once in a while.”

C. “Pillows should not be used in the infant’s crib.”

D. “Infants should never be left unattended on an unguarded surface.”

Correct Answer: B. “It’s acceptable to prop the infant’s bottle once in a while.”

- **Option B:** It is not advisable to prop or leave the bottle in the baby’s mouth. This can increase the baby’s risk of choking, ear infections, and tooth decay. There is also the very real risk that babies simply end up consuming too much milk if it keeps flowing.

5. For a female client newly diagnosed with radiation-induced thrombocytopenia, the nurse should include which intervention in the plan of care?

A. Inspecting the skin for petechiae once every shift

B. Placing the client in strict isolation

C. Providing for frequent rest periods

D. Administering aspirin if the temperature exceeds 102° F (38.8°C)

Correct Answer: A. Inspecting the skin for petechiae once every shift

- **Option A:** Because thrombocytopenia impairs blood clotting, the nurse should inspect the client regularly for signs of bleeding, such as petechiae, purpura, epistaxis, and bleeding gums.
- **Option B:** Strict isolation is indicated only for clients who have highly contagious or virulent infections that are spread by air or physical contact.
- **Option C:** Frequent rest periods are indicated for clients with anemia, not thrombocytopenia.
- **Option D:** The nurse should avoid administering aspirin because it may increase the risk of bleeding.

6. The amniotic fluid of a client has a greenish tint. The nurse interprets this to be the result of which of the following?

A. Lanugo

B. Hydramnios

C. Meconium

D. Vernix

Correct Answer: C. Meconium

The greenish tint is due to the presence of meconium. Meconium is a thick, green, tar-like substance that lines the baby's intestines during pregnancy. Typically this substance is not released in the baby's bowel movements until after birth. However, sometimes a baby will have a bowel movement prior to birth, excreting the meconium into the amniotic fluid.

- **Option A:** Lanugo is the soft, downy hair on the shoulders and back of the fetus. This downy, unpigmented hair is the first type of hair that grows from hair follicles. It can be found everywhere on a baby's body, except on the palms, lips, and soles of the feet. Most fetuses develop lanugo around the fourth or fifth month of pregnancy.
- **Option B:** Hydramnios represents excessive amniotic fluid.
- **Option D:** Vernix is the white, cheesy substance covering the fetus. It is produced by dedicated cells and is thought to have some protective roles during fetal development and for a few hours after birth.

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

A. Time of onset of current stroke

B. Complete physical and history

C. Current medications

D. Upcoming surgical procedures

Correct Answer: A. Time of onset of current stroke

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

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

8. A male client was on warfarin (Coumadin) before admission and has been receiving heparin I.V. for 2 days. The partial thromboplastin time (PTT) is 68 seconds. What should Nurse Carla do?

A. Stop the I.V. infusion of heparin and notify the physician.

B. Continue treatment as ordered.

C. Expect the warfarin to increase the PTT.

D. Increase the dosage, because the level is lower than normal.

Correct Answer: B. Continue treatment as ordered.

The effects of heparin are monitored by the PTT is normally 30 to 45 seconds; the therapeutic level is 1.5 to 2 times the normal level.

- **Option A:** There is no need to stop the infusion since the PTT is at a therapeutic level. In patients receiving concomitant heparin and warfarin therapy, PTT reflects the combined effects of both drugs. Because of the marked effect of warfarin on the PTT, decreasing heparin dose in response to a high PTT frequently results in subtherapeutic heparin levels.
- **Option C:** The PTT is not used to monitor warfarin therapy, but PTT may be prolonged by warfarin at high doses.
- **Option D:** The level is correct; increasing the dosage is unnecessary. Warfarin markedly affects PTT, for each increase of 1.0 in the international normalized ratio, the PTT increases 16 seconds.

9. An acceleration in oxygen dissociation from hemoglobin, and thus oxygen delivery to the tissues, is caused by:

A. A decreasing oxygen pressure in the blood.

B. An increasing carbon dioxide pressure in the blood.

C. A decreasing oxygen pressure and/or an increasing carbon dioxide pressure in the blood.

D. An increasing oxygen pressure and/or a decreasing carbon dioxide pressure in the blood.

Correct Answer: C. A decreasing oxygen pressure and/or an increasing carbon dioxide pressure in the blood.

The lower the PO2 and the higher the PCO2, the more rapidly oxygen dissociated from the oxyhemoglobin molecule. Factors that contribute to a right-shift in the oxygen dissociation curve and favor the unloading of oxygen correlate with exertion. These include increased body temperature, decreased pH (due to increased production of CO2), and increased 2,3-BPG. (Figure) This right shift of the oxyhemoglobin curve can be viewed as an adaptation for physical exertion.

- **Option A:** In the setting of hypoxia or low blood oxygen levels, irreversible tissue damage can rapidly occur. Hypoxia can be the result of an impaired oxygen-carrying capacity of the blood (e.g., anemia), impaired unloading of oxygen from hemoglobin in target tissues (e.g., carbon monoxide toxicity), or from a restriction of blood supply.
- **Option B:** Hemoglobin (Hgb or Hb) is the primary carrier of oxygen in humans. Approximately 98% of total oxygen transported in the blood is bound to hemoglobin, while only 2% is dissolved directly in plasma. Hemoglobin is a metalloprotein with four subunits, each composed of an iron-containing heme group attached to a globin polypeptide chain. One molecule of oxygen can bind to the iron atom of a heme group, giving each hemoglobin the ability to transport four molecules of oxygen.

- **Option D:** The body maintains adequate oxygenation of tissues in the setting of decreased PO or increased demand for oxygen. These changes often express shifts in the oxygen dissociation curve, which represents the percentage of hemoglobin saturated with oxygen at varying levels of PO.

10. A patient in labor and delivery has just received an amniotomy. Which of the following is correct? Select all that apply.

A. Frequent checks for cervical dilation will be needed after the procedure.

B. Contractions may rapidly become stronger and closer together after the procedure.

C. The FHR (fetal heart rate) will be followed closely after the procedure due to the possibility of cord compression.

D. The procedure is usually painless and is followed by a gush of amniotic fluid.

E. The procedure is without pain.

Correct Answer: B, C, D & E.

Uterine contractions typically become stronger and occur more closely together following amniotomy. The FHR is assessed immediately after the procedure and followed closely to detect changes that may indicate cord compression. The procedure itself is painless and results in the quick expulsion of amniotic fluid.

- **Option A:** Following amniotomy, cervical checks are minimized because of the risk of infection. Amniotomy is easily performed with the use of specially designed hooks intended to grab and tear the amniotic membrane. The two most commonly used devices are (1) an approximately 10-inch rod with a hook on the end of the rod or (2) a finger cot with a hook on the end of the cot. With either device, the practitioner first assesses cervical dilation through the performance of a sterile digital exam.
- **Option B:** It is commonly felt that relieving the amniotic sac of amniotic fluid induces uterine contraction activity, increases the strength of contractions, and may augment labor by allowing direct pressure from the fetal scalp on the uterine cervix which may assist in dilating the cervix.
- **Option C:** In the case of an unengaged fetal head, rupture of membranes may allow for the umbilical cord to precede the fetal head when the release of amniotic fluid occurs. This will allow the fetal head to compress the section of umbilical cord preceding the head, generally leading to fetal bradycardia and necessitating emergency cesarean section. This complication should be an easily avoidable, iatrogenic cause of emergency delivery.
- **Option D:** The nurse plays a vital role during the procedure in monitoring the mother as well as the fetus, she also notes the color of the draining amniotic fluid and documents the findings in the medical chart. After the procedure, she assesses the maternal temperature every two hours and watches out for any signs of infection. The nurse also monitors the fetal heart rate via continuous electronic fetal monitoring and communicates the findings to the provider.
- **Option E:** Pain is not associated with amniotomy. Practitioners have believed that artificial rupture of membranes either can assist in inducing labor or augmenting spontaneous labor. It is commonly felt that relieving the amniotic sac of amniotic fluid induces uterine contraction activity, increases the strength of contractions, and may augment labor by allowing direct pressure from the fetal scalp on the uterine cervix which may assist in dilating the cervix.

11. Using Abraham Maslow's hierarchy of human needs, a nurse assigns highest priority to which client need?

A. Security

B. Elimination

C. Safety

D. Belonging

Correct Answer: B. Elimination

According to Maslow, elimination is a first-level or physiological need and therefore takes priority over all other needs. In 1943, Abraham Maslow developed a hierarchy based on basic fundamental needs innate for all individuals. Maslow's hierarchy of needs is a motivational theory in psychology comprising a five-tier model of human needs, often depicted as hierarchical levels within a pyramid. From the bottom of the hierarchy upwards, the needs are: physiological (food and clothing), safety (job security), love and belonging needs (friendship), esteem, and self-actualization. Security and safety are second-level needs; belonging is a third-level need. Second- and third-level needs can be met only after a client's first-level needs have been satisfied.

- **Option A:** Once an individual's physiological needs are satisfied, the needs for security and safety become salient. People want to experience order, predictability, and control in their lives. These needs can be fulfilled by the family and society (e.g. police, schools, business, and medical care).
- **Option C:** Physiological and safety needs provide the basis for the implementation of nursing care and nursing interventions. For example, emotional security, financial security (e.g. employment, social welfare), law and order, freedom from fear, social stability, property, health, and wellbeing (e.g. safety against accidents and injury).
- **Option D:** After physiological and safety needs have been fulfilled, the third level of human needs is social and involves feelings of belongingness. The need for interpersonal relationships motivates behavior. Examples include friendship, intimacy, trust, and acceptance, receiving and giving affection and love. Affiliating, being part of a group (family, friends, work)

12. A client who has been receiving heparin therapy also is started on warfarin. The client asks a nurse why both medications are being administered. In formulating a response, the nurse incorporates the understanding that warfarin:

A. Stimulates the breakdown of specific clotting factors by the liver, and it takes two (2)- three (3) days for this to exert an anticoagulant effect.

B Inhibits synthesis of specific clotting factors in the liver, and it takes 3-4 days for this medication to exert an anticoagulant effect.

C. Stimulates production of the body's own thrombolytic substances, but it takes 2-4 days for this to begin.

D. Has the same mechanism of action as Heparin, and the crossover time is needed for the serum level of warfarin to be therapeutic.

Correct Answer: B. Inhibits synthesis of specific clotting factors in the liver, and it takes 3-4 days for this medication to exert an anticoagulant effect.

Warfarin works in the liver and inhibits synthesis of four vitamin K-dependent clotting factors (X, IX, VII, and II), but it takes 3 to 4 days before the therapeutic effect of warfarin is exhibited. Because of the

delay in factor II (prothrombin) suppression, heparin is administered concurrently for four to five days to prevent thrombus propagation. Loading doses of warfarin are not warranted and may result in bleeding complications.

- **Option A:** Warfarin is the oral anticoagulant most frequently used to control and prevent thromboembolic disorders. Prescribing the dose that both avoids hemorrhagic complications and achieves sufficient suppression of thrombosis requires a thorough understanding of the drug's unique pharmacology.
- **Option C:** The earliest changes in the International Normalized Ratio (INR) are typically noted 24 to 36 hours after a dose of warfarin is administered. These changes are due to the clearance of functional factor VII, which is the vitamin K–dependent clotting factor with the shortest half-life (six hours).
- **Option D:** Loading doses theoretically may cause clot formation and/or expansion by limiting the production of proteins C and S, which have shorter half-lives than prothrombin. Consequently, the concurrent use of heparin is extremely important.

13. A chest x-ray showed a client's lungs to be clear. His Mantoux test is positive, with a 10mm of induration. His previous test was negative. These test results are possible because:

A. He had TB in the past and no longer has it.

B. He was successfully treated for TB, but skin tests always stay positive.

C. He's a "seroconverter", meaning the TB has gotten to his bloodstream.

D. He's a "tuberculin converter," which means he has been infected with TB since his last skin test.

Correct Answer: D. He's a "tuberculin converter," which means he has been infected with TB since his last skin test.

A tuberculin converter's skin test will be positive, meaning he has been exposed to an infection with TB and now has a cell-mediated immune response to the skin test. Induration of 10 mm or greater indicates positivity in persons with above baseline risk of reactivation.

- **Option A:** The client's blood and x-ray results may stay negative. It doesn't mean the infection has advanced to the active stage. If the chest radiograph or clinical evaluation are suggestive of tuberculosis, then active infection needs to be excluded with further testing.
- **Option B:** Because his x-ray is negative, he should be monitored every 6 months to see if he develops changes in his x-ray or pulmonary examination. If there is no evidence of active disease is noted by history, physical or radiograph, the patient is deemed to have LTBI and should be treated.
- **Option C:** Being a seroconverter doesn't mean the TB has gotten into his bloodstream; it means it can be detected by a blood test. If there is a high risk of infection and progression, the test should not be repeated.

14. Patricia, a 20-year-old college student with diabetes mellitus, requests additional information about the advantages of using a pen-like insulin delivery device. The nurse explains that the advantages of these devices over syringes include:

A. Accurate dose delivery

B. Shorter injection time

C. Lower cost with reusable insulin cartridges

D. Use of a smaller gauge needle.

Correct Answer: A. Accurate dose delivery

These devices are more accurate because they are easy to use and have improved adherence to insulin regimens by young people because the medication can be administered discreetly. Once in use, most insulin analog vials, cartridges, and prefilled pens must be discarded after 28 days. This means that many patients who use a 10-ml vial end up either wasting insulin or using insulin beyond its recommended discard date. This is rarely a problem for patients using either a 3-ml prefilled pen or a reusable pen containing a 3-ml insulin cartridge.

- **Option B:** Injection time of insulin pens and the traditional insulin syringes have no significant difference. Patients must therefore keep the device in place with the button pressed in for 5–10 seconds. If the patient is using more than 50 units of insulin per dose, a good rule of thumb might be to instruct them to count to 10 regardless of the pen they are using to ensure complete absorption of the insulin.
- **Option C:** An additional issue is the greater prescription cost of insulin cartridges and prefilled insulin pens compared with insulin vials, although the cost to the patient may be the same depending on their coverage; in fact, if they have one copay per box of pens, the cost to the patient may actually be less per unit of insulin. It should be noted, however, that despite the higher unit cost of insulin in pen devices versus vials, several studies have found that overall diabetes-related treatment costs are lower with pen devices than with vial and syringe.
- **Option D:** For all insulin pen devices, a separate prescription for pen needles is required, with gauges ranging from 29 to 32 and in lengths from 5 to 12.7 mm, much like the traditional insulin syringes used. More recent developments have resulted in the introduction of safety needles with protective shields that not only reduce needle-stick injuries but may also allay patient anxieties about needle use.

15. The nurse is aware that the most common assessment finding in a child with ulcerative colitis is:

A. Intense abdominal cramps

B. Profuse diarrhea

C. Anal fissures

D. Abdominal distention

Correct Answer: B. Profuse diarrhea

The most common assessment finding in a child with ulcerative colitis is profuse diarrhea. The main symptom of ulcerative colitis is bloody diarrhea, with or without mucus. Other symptoms include blood in the toilet, on toilet paper, or in the stool. Characteristically, it involves inflammation restricted to the mucosa and submucosa of the colon. Typically, the disease starts in the rectum and extends proximally in a continuous manner.

- **Option A:** Ulcerative colitis causes intense abdominal cramps. Associated symptoms also include urgency or tenesmus, abdominal pain, malaise, weight loss, and fever, depending on the extent and severity of the disease. The onset of the disease is typically gradual, and patients will likely experience periods of spontaneous remission and subsequent relapses.

- **Option C:** Ulcerative colitis causes anal fissures. There are some extraintestinal manifestations (EIMs) that are also present in 10% to 30% of patients with ulcerative colitis. Extraintestinal manifestations associated with disease activity include episcleritis, scleritis, and uveitis, peripheral arthropathies, erythema nodosum, and pyoderma gangrenosum.
- **Option D:** Abdominal distensions are more common in Crohn's disease. Patients with flare-ups of Crohn's disease typically present with abdominal pain (right lower quadrant), flatulence/bloating, diarrhea (can include mucus and blood), fever, weight loss, anemia. In severe cases, perianal abscess, perianal Crohn's disease, and cutaneous fistulas can be seen.

16. Which of the following should the nurse teach the client about the signs of digitalis toxicity?

A. Increased appetite

B. Elevated blood pressure

C. Skin rash over the chest and back

D. Visual disturbances such as seeing yellow spots

Correct Answer: D. Visual disturbances such as seeing yellow spots

Seeing yellow spots and colored vision are common symptoms of digitalis toxicity. Of note visual changes especially changes involving colors such as seeing a yellow hue are better known and specifically seen in digitalis toxicity. Other visual problems include photophobia, photopsia and diminished visual acuity.

- **Option A:** GI symptoms of digitalis toxicity include anorexia and weight loss. Most symptoms are nonspecific findings and include a headache, malaise, insomnia, altered mental status, abdominal pain, nausea, and vomiting.
- **Option B:** Hypotension is one of the cardiac symptoms of digitalis toxicity. There is no specific arrhythmia for digoxin toxicity rather a range of arrhythmias can be present such as various degrees of AV block, premature ventricular contractions, bradycardia, and even ventricular tachycardia. Cardiac arrhythmias are the main cause of death for those with digoxin toxicity.
- **Option C:** There are no skin rashes in patients with digitalis toxicity. History of exposure is necessary to determine if poisoning is acute or chronic. Most reported poisonings result from chronic toxicity. Clinical signs of toxicity include gastrointestinal, neurological and the most concerning cardiac.

17. Drugs that mimic sympathetic activity are known as: Drugs that mimic sympathetic activity are known as:

A. Cholinergics

B. Anticholinergics

C. Adrenergics

D. Antiadrenergics

Correct Answer: C. Adrenergics

Drugs that mimic the effects of sympathetic activity are known as adrenergics. Adrenergic drugs must be classified based on the specific receptors they bind. Direct-acting drugs, which are the primary focus

of this article, include vasopressors, bronchodilators, and other drugs. Indirect acting adrenergic drugs increase norepinephrine and epinephrine through various mechanisms. Hence, their side effect profiles are similar to those seen with vasopressors.

- **Option A:** Cholinergic medications are a category of pharmaceutical agents that act upon the neurotransmitter acetylcholine, the primary neurotransmitter within the parasympathetic nervous system (PNS). There are two broad categories of cholinergic drugs: direct-acting and indirect-acting. The direct-acting cholinergic agonists work by directly binding to and activating the muscarinic receptors. Indirect-acting cholinergic agents increase the availability of acetylcholine at the cholinergic receptors.
- **Option B:** Anticholinesterase medications are agents that inhibit cholinesterase, protect acetylcholine from hydrolysis, and produce cholinergic effects. Anticholinesterases further classify into reversible (carbamates) and irreversible agents (organophosphates).
- **Option D:** Centrally acting antiadrenergic agents inhibit the stimulation of the central nervous system alpha-adrenergic receptors and decrease sympathetic stimulation to the blood vessels and the heart. They block the release and action of catecholamines (epinephrine, norepinephrine, dopamine), which are released in response to stress.

18. Nurse Lesley is conducting health teachings to a group of first-time mothers. Which of the following are signs of ovulation? Select all that apply.

A. Mittelschmerz

B. Spinnbarkeit

C. Thin watery cervical mucus

D. Elevated body temperature of 4.0 degrees centigrade

Correct Answer: A, B, & C

Mittelschmerz, spinnbarkeit and thin watery cervical mucus are signs of ovulation. When ovulation occurs, the hormone progesterone is released which can cause a slight elevation of temperature between 0.2-0.4 degrees centigrade and not 4 degrees centigrade. Mittelschmerz is one-sided, lower abdominal pain associated with ovulation. German for “middle pain,” mittelschmerz occurs midway through a menstrual cycle — about 14 days before the next menstrual period. In most cases, mittelschmerz doesn’t require medical attention. The ‘stretchability’ of cervical mucus, or the length that strands of cervical mucus reach before breaking–? 6 cm, a reaction that parallels ‘ferning’ reaction, peaking on the 14th day–ovulation of the menstrual cycle. This kind of cervical mucus stretches further than creamy cervical mucus, and it appears clearer. While not the “ideal” fertile cervical mucus, watery cervical mucus is fertile.

19. External-beam radiation is planned for a patient with endometrial cancer. The nurse teaches the patient that an important measure to prevent complications from the effects of the radiation is to

A. Test all stools for the presence of blood

B. Inspect the mouth and throat daily for the appearance of thrush

C. Perform perianal care with sitz baths and meticulous cleaning

D. Maintain a high-residue, high-fat diet

Correct Answer: C. Perform perianal care with sitz baths and meticulous cleaning

- **Option C:** Radiation to the abdomen will affect organs in the radiation path, such as the bowel, and cause frequent diarrhea.
- **Options A and B:** Stools are likely to have occult blood from the inflammation associated with radiation, so routine testing of stools for blood is not indicated. Radiation to the abdomen will not cause stomatitis.
- **Option D:** A low-residue diet is recommended to avoid irritation of the bowel when patients receive abdominal radiation.

20. Rhea, confused and short breath, is brought to the emergency department by a family member. The medical history reveals chronic bronchitis and hypertension. To learn more about the current respiratory problem, the doctor orders a chest x-ray and arterial blood gas (ABG) analysis. When reviewing the ABG report, the nurses see many abbreviations. What does a lowercase "a" in ABG value present?

A. Acid-base balance

B. Arterial Blood

C. Arterial oxygen saturation

D. Alveoli

Correct Answer: B. Arterial Blood

A lowercase "a" in an ABG value represents arterial blood. For instance, the abbreviation PaO2 refers to the partial pressure of oxygen in arterial blood. Arterial blood gas analysis can be used to assess gas exchange and acid base status as well as to provide immediate information about electrolytes.

- **Option A:** The pH value reflects the acid-base balance in arterial blood. pH is a logarithmic scale of the concentration of hydrogen ions in a solution. It is inversely proportional to the concentration of hydrogen ions. When a solution becomes more acidic the concentration of hydrogen ions increases and the pH falls.
- **Option C:** Sa02 indicates arterial oxygen saturation. Oxygen saturation (SaO2) is a measurement of the percentage of how much hemoglobin is saturated with oxygen. Oxygen is transported in the blood in two ways: oxygen dissolved in blood plasma (pO2) and oxygen bound to hemoglobin (SaO2). About 97% of oxygen is bound to hemoglobin while 3% is dissolved in plasma.
- **Option D:** An uppercase "A" represents alveolar conditions: for example, PA02 indicates the partial pressure of oxygen in the alveoli. Partial pressure of oxygen (PaO2). This measures the pressure of oxygen dissolved in the blood and how well oxygen is able to move from the airspace of the lungs into the blood.

21. A 35-year-old client has been receiving chemotherapy to treat cancer. Which assessment finding suggests that the client has developed stomatitis (inflammation of the mouth)?

A. Rust-colored sputum

B. Red, open sores on the oral mucosa

C. Yellow tooth discoloration

D. White, cottage cheese–like patches on the tongue

Correct Answer: B. Red, open sores on the oral mucosa

- **Option B:** The tissue-destructive effects of cancer chemotherapy typically cause stomatitis, resulting in ulcers on the oral mucosa that appear as red, open sores.
- **Option A:** Rust-colored sputum suggests a respiratory disorder, such as pneumonia.
- **Option C:** Yellow tooth discoloration may result from antibiotic therapy, not cancer chemotherapy.
- **Option D:** White, cottage cheese–like patches on the tongue suggest a candidal infection, another common adverse effect of chemotherapy.

22. Which of the following calcium channel blockers is used to counteract or prevent cerebral vasospasm?

A. verapamil

B. nimodipine

C. nifedipine

D. felodipine

Correct Answer: B. nimodipine

Nimodipine is given in the neurologic client to prevent cerebral vasospasm. Nimodipine should be given to patients with no neurological deficits after subarachnoid hemorrhage to reduce the onset of new neurological deficits due to vasospasm. (Cerebral arterial spasm controlled trial of nimodipine in patients with subarachnoid hemorrhage, 1983). Verapamil, nifedipine, and felodipine are given in cardiac disease and in the management of hypertension only.

- **Option A:** Verapamil is a non-dihydropyridine calcium channel blocker. Calcium channel blockers inhibit the entry of calcium ions into the slow L-type calcium channels in the myocardium and vascular smooth muscle during depolarization. This inhibition will produce relaxation of coronary vascular smooth muscle as well as coronary vasodilation, which is helpful in patients with hypertension.
- **Option C:** Nifedipine reduced the frequency of angina and increased the mean exercise time in the IMAGE trial. Reflex tachycardia may limit its effectiveness; the addition of a beta-blocker can overcome this limitation.
- **Option D:** Felodipine is an agent in the dihydropyridine class of calcium channel blockers. Felodipine is FDA approved and indicated in the treatment of essential hypertension. Reduction in blood pressure lowers the risk of cardiovascular morbidity and mortality. The most significant benefit of the antihypertensive effect of felodipine is a decrease in the incidence of stroke.

23. Carl, an elementary student, was rushed to the hospital due to vomiting and a decreased level of consciousness. The patient displays slow and deep (Kussmaul breathing), and he is lethargic and irritable in response to stimulation. He appears to be dehydrated—his eyes are sunken and mucous membranes are dry—and he has a two-week history of polydipsia, polyuria, and weight loss. Measurement of arterial blood gas shows pH 7.0, PaO2 90 mm Hg,

PaCO2 23 mm Hg, and HCO3 12 mmol/L; other results are Na+ 126 mmol/L, K+ 5 mmol/L, and Cl- 95 mmol/L. What is your assessment?

A. Respiratory Acidosis, Uncompensated

B. Respiratory Acidosis, Partially Compensated

C. Metabolic Alkalosis, Uncompensated

D. Metabolic Acidosis, Partially, Compensated

Correct Answer: D. Metabolic Acidosis, Partially, Compensated

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

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

A. Fetal heart rate of 180 beats per minute.

B. White blood cell count of 12,000.

C. Maternal pulse rate of 85 beats per minute.

D. Hemoglobin of 11.0 g/dL.

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

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

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

25. A nurse is caring for a postpartum (PP) client with a diagnosis of DVT who is receiving a continuous intravenous infusion of heparin sodium. Which of the following laboratory results will the nurse specifically review to determine if an effective and appropriate dose of the heparin is being delivered?

A. Prothrombin time

B. International normalized ratio

C. Activated partial thromboplastin time

D. Platelet count

Correct Answer: C. Activated partial thromboplastin time.

Anticoagulation therapy may be used to prevent the extension of thrombus by delaying the clotting time of the blood. Activated partial thromboplastin time should be monitored, and a heparin dose should be adjusted to maintain a therapeutic level of 1.5 to 2.5 times the control. Anticoagulants derive their effect by acting at different sites of the coagulation cascade. Some act directly by enzyme inhibition, while others indirectly, by binding to antithrombin or by preventing their synthesis from the liver (vitamin K dependent factors).

- **Option A:** This is the initial test used to identify defects in secondary hemostasis. It is the time taken for blood to clot and generates thrombin. A delay in the PT or aPTT indicates the presence of either a deficiency or inhibitor of the clotting factor, except for the antiphospholipid antibody, which can result in delayed aPTT. The normal range for PT levels is approximately 11 to 13 seconds, although levels may vary depending on the laboratory.
- **Option B:** The INR are used to monitor coagulation time when warfarin (Coumadin) is used. The clotting time is the time it takes for plasma to clot after the addition of different substrates in vitro under standard conditions using the capillary method. The average clotting time is between 8 to 15 minutes. Some studies have disputed the use of clotting time as a screening test.
- **Option D:** Although thrombocytopenia increases bleeding risk, it has been shown to predispose patients to venous thromboembolism. Heparin-induced thrombocytopenia is antibody-mediated with complications that include pulmonary embolism, acute myocardial infarction, and ischemic limb necrosis. Therefore, estimation of the bleeding risk before initiation of anticoagulation is essential. The use of argatroban, lepirudin, or danaparoid is recommended over other non-heparin anticoagulants.

26. The primary critical observation for Apgar scoring is the:

A. Heart rate

B. Respiratory rate

C. Presence of meconium

D. Evaluation of the Moro reflex

Correct Answer: A. Heart rate.

- **Option A:** The heart rate is vital for life and is the most critical observation in Apgar scoring. Respiratory effect rather than rate is included in the Apgar score; the rate is very erratic.

27. She came across a theory which states that the leadership style is effective depends on the situation. Which of the following styles best fits a situation when the followers are self-directed, experts, and are matured A. Democraticindividuals?

A. Democratic

B. Authoritarian

C. Laissez-faire

D. Bureaucratic

Correct Answer: C. Laissez faire

Laissez-faire leadership is preferred when the followers know what to do and are experts in the field. This leadership style is relationship-oriented rather than task-centered. This kind of leadership is very hands-off—managers trust their employees and are confident in their abilities. They give guidance and take responsibility where needed, but this leadership style means that subordinates and team members have the real lead.

- **Option A:** Democratic leadership, also known as participative leadership or shared leadership, is a type of leadership style in which members of the group take a more participative role in the decision-making process. This type of leadership can apply to any organization, from private businesses to schools to the government.
- **Option B:** Authoritarian leadership, also known as autocratic leadership, is a management style in which an individual has total decision-making power and absolute control over his subordinates. Leaders make decisions with little or no participation or creative input from their followers or team members.
- **Option D:** Bureaucratic leadership refers to organizational leadership through a highly formalized set of processes, procedures, and structures. Here, rules, policies, and hierarchies form a clear set of expectations as well as an explicit chain of command.

28. A client with major depression has not verbalized problem areas to staff or peers since admission to a psychiatric unit. Which activity should the nurse recommend to help this client express himself?

A. Art therapy in a small group.

B. Basketball game with peers on the unit.

C. Reading a self-help book on depression.

D. Watching a movie with the peer group.

Correct Answer: A. Art therapy in a small group

Art therapy provides a non-threatening vehicle for the expression of feelings, and use of a small group will help the client become comfortable with peers in a group setting. Initially, provide activities that require minimal concentration (e.g., drawing, playing simple board games). Depressed people lack concentration and memory. Activities that have no “right or wrong” or “winner or loser” minimizes opportunities for the client to put himself/herself down.

- **Option B:** Basketball is a competitive game that requires energy; the client with major depression is not likely to participate in this activity. Involve the client in gross motor activities that call for very little concentration (e.g., walking). Such activities will aid in relieving tensions and might help in elevating the mood.
- **Option C:** Recommending that the client read a self-help book may increase, not decrease his isolation. When the client is in the most depressed state, Involve the client in one-to-one activity; maximizes the potential for interactions while minimizing anxiety levels.
- **Option D:** Watching a movie with a peer group does not guarantee that interaction will occur; therefore, the client may remain isolated. Eventually, involve the client in group activities (e.g., group discussions, art therapy, dance therapy). Socialization minimizes feelings of isolation. Genuine regard for others can increase feelings of self-worth.

29. The psychiatric nurse is alert to warning signs of suicide in the adolescent population. From the following list, select those behaviors that are indicative of adolescent suicidal thinking. Select all that apply.

A. Giving away prized possessions

B. Associating with friends who are substance abusers

C. Sudden withdrawal from friends and family

D. Having difficulty concentrating on one thing at a time

E. Being easily distracted by environmental events

F. Verbal hints or threats about suicide

Correct Answer: A, C, & F

These are all warning signs that an adolescent is having suicidal thoughts. The nurse should directly question any adolescent about suicide intent when these indicators are noted. Suicidal ideation sometimes referred to as suicidal thoughts, describes thoughts, fantasies, ideas, or images related to committing suicide. Contrary to common belief, depression and suicidal thoughts are not limited to adults, but symptoms and warning signs are often different in teens.

- **Option A:** Giving away belongings when there is no other logical explanation for why this is being done is a warning sign that a teen might be suicidal. In the U.S., suicide attempts are more common in adolescent girls than boys. But boys are more likely to die by suicide than are girls.
- **Option B:** This may indicate that the adolescent has a problem with substance use, but not necessarily suicide. They might also be unable to see that they can turn their lives around — and that suicide is a permanent response, not a solution, to a temporary problem.
- **Option C:** Don't dismiss suicidal talk as "typical teen drama." If a child is making comments such as "I might as well kill myself" or "I wish I was dead," you need to listen and acknowledge their pain.
- **Option D:** Many teens who attempt or die by suicide have a mental health condition. As a result, they have trouble coping with the stress of being a teen, such as dealing with rejection, failure, breakups, school difficulties, and family turmoil.
- **Option E:** These are signs of attention deficit hyperactivity disorder, not suicide. If a teen is thinking about suicide, he or she is likely displaying warning signs. Listen to what the child is saying and watch how he or she is acting. Never shrug off threats of suicide as teen melodrama.
- **Option F:** Active suicidal ideation is when a teen experiences persistent thoughts of suicide and continues to feel hopeless. When the ideation is active, a teen begins to take steps to carry out a suicide attempt.

30. The nurse ensures a therapeutic environment for the client. Which of the following best describes a therapeutic milieu?

A. A therapy that rewards adaptive behavior.

B. A cognitive approach to change behavior.

C. A living, learning, or working environment.

D. A permissive and congenial environment.

Correct Answer: C. A living, learning, or working environment.

A therapeutic milieu refers to a broad conceptual approach in which all aspects of the environment are channeled to provide a therapeutic environment for the client. The six environmental elements include structure, safety, norms, limit setting, balance and unit modification.

- **Option A:** Behavioral approach in psychiatric care is based on the premise that behavior can be learned or unlearned through the use of reward and punishment. The behavioral approach emphasizes the scientific study of observable behavioral responses and their environmental determinants. In other words, it's the study of the connection between our minds and behavior.
- **Option B:** Cognitive approach to change behavior is done by correcting distorted perceptions and irrational beliefs to correct maladaptive behaviors. The cognitive approach believes that internal mental behavior can be scientifically studied using experiments. Cognitive psychology assumes that a mediational process occurs between stimulus/input and response/output.
- **Option D:** This is not congruent with the therapeutic milieu. A therapeutic milieu is a structured environment that creates a safe, secure place for people who are in therapy. It is the therapeutic environment that supports the individual in their process toward recovery and wellness. This milieu involves not just the provision of safe physical surroundings, but also supportive therapists and staff.

31. The parents of a child, age 6, who will begin school in the fall ask the nurse for anticipatory guidance. The nurse should explain that a child of this age:

A. Is highly sensitive to criticism

B. Rebels against scheduled activities

C. Still depends on the parents

D. Loves to tattle

Correct Answer: A. Is highly sensitive to criticism

Anticipatory guidance is provided by a health care professional to a parent/caregiver in providing an understanding of a child's development and anticipating their growing needs. In a 6-year-old child, a precarious sense of self causes an overreaction to criticism and a sense of inferiority. Parents can help kids develop a sense of realistic competence by avoiding excessive praise and rewards, encouraging efforts rather than outcomes, and helping kids develop a growth mindset.

- **Option B:** By age 6, most children love the routine of a schedule. The more children participate in the process, the better they understand and follow the rules. This sense of ownership in the process is key to children this age who are transitioning from accepting outside authority to challenging it.
- **Option C:** By age 6, most children no longer depend on their parents for daily tasks. During the industry versus inferiority stage, children become capable of performing increasingly complex tasks. As a result, they strive to master new skills. Children who are encouraged and commended by parents and teachers develop a feeling of competence and belief in their skills.
- **Option D:** Tattling is more common at ages 4 to 5. By age 6, the child wants to make friends and be a friend. Friends and classmates play a role in how children progress through the industry versus inferiority stage. Through proficiency at play and schoolwork, children are able to develop a sense of competence and pride in their abilities.

32. Which of the following client behaviors documented in Gio's chart would validate the nursing diagnosis of Risk for other-directed violence?

A. Gio's description of being endowed with superpowers.

B. Frequent angry outburst noted toward peers and staff.

C. Refusal to eat cafeteria food.

D. Refusal to join in group activities.

Correct Answer: B. Frequent angry outburst noted toward peers and staff

Anger is an important factor that indicates the potential for acting out. Because the client is angry with both peers and staff, any acting out would probably be directed toward others. Frequently assess client's behavior for signs of increased agitation and hyperactivity. Early detection and intervention of escalating mania will prevent the possibility of harm to self or others, and decrease the need for seclusions.

- **Option A:** The client's description of being endowed with superpowers indicates he is having delusions. Attempt to understand the significance of these beliefs to the client at the time of their presentation. Important clues to underlying fears and issues can be found in the client's seemingly illogical fantasies. Recognize the client's delusions as the client's perception of the environment.
- **Option C:** His refusal to eat cafeteria food indicates that he may have delusional beliefs, but not necessarily a risk for violence. Do not touch the client; use gestures carefully. Suspicious clients might misinterpret touch as either aggressive or sexual in nature and might interpret it as a threatening gesture. People who are psychotic need a lot of personal space.
- **Option D:** Refusal to join in group activities indicates discomfort with a group, however, no threat of violence is apparent. Structure times each day to include planned times for brief interactions and activities with the client on one-on-one basis. Helps the client to develop a sense of safety in a non-threatening environment. Provide opportunities for the client to learn adaptive social skills in a non-threatening environment. Initial social skills training could include basic social behaviors (e.g., appropriate distance, maintain good eye contact, calm manner/behavior, moderate voice tone).

33. The net diffusion of water from one solution of water from one solution through a semipermeable membrane to another solution containing a lower concentration of water is termed:

A. Filtration

B. Diffusion

C. Osmosis

D. Brownian motion

Correct Answer: C. Osmosis

Osmosis is defined as the diffusion of water through a semipermeable membrane to a solution with a lower concentration of water. It is important to emphasize that ideal osmosis requires only the movement of pure water across the membrane without any movement of solute particles across the semipermeable membrane. Osmosis can still occur with some permeability of solute particles, but the osmotic effect becomes reduced with greater solute permeability across the semipermeable membrane.

- **Option A:** Filtration is the process in which fluids are pushed through biological membranes by unequal processes. Filtration is a process used to separate solids from liquids or gases using a filter medium that allows the fluid to pass through but not the solid. The term "filtration" applies

whether the filter is mechanical, biological, or physical. The fluid that passes through the filter is called the filtrate.

- **Option B:** Diffusion is the random kinetic motion causing atoms and molecules to spread out evenly. There is a form of passive transport called facilitated diffusion. It occurs when molecules such as glucose or amino acids move from high concentration to low concentration facilitated by carrier proteins or pores in the membrane.
- **Option D:** Brownian motion is the random motion of particles suspended in a fluid (a liquid or a gas) resulting from their collision with the fast-moving atoms or molecules in the gas or liquid. This transport phenomenon is named after the botanist Robert Brown.

34. A client with depression who has been taking amitriptyline for three months returns to the clinic for a follow-up. The nurse observes the client in which of the following symptoms?

A. Lack of energy

B. Suicidal thoughts

C. Loss of interest in personal appearance

D. Neglect of responsibilities

Correct Answer: B. Suicidal thoughts

Clients may have thoughts about suicide when taking an antidepressant such as amitriptyline especially during the beginning of the treatment and any time during dosage adjustment.

- **Options A, C, and D:** These are signs and symptoms of depression but are most likely improved as the treatment goes on.

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

A. "The contraction phase of wound healing can take 2 to 3 years."

B. "Wound healing is very individual but within 4 months the scar should fade.

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

D. "If you don't develop an infection, the wound should heal any time between 1 and 3 years from now."

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

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

- **Option A:** Ischemia can lead to prolonged inflammation, which increases the levels of oxygen radicals, leading to further tissue injury. Elevated levels of matrix metalloproteases in chronic diabetic wounds, sometimes up to 50-100 times higher than acute wounds, cause tissue destruction and prevent normal repair processes from taking place. Furthermore, diabetes is

associated with impaired immunity, with critical defects occurring at multiple points within the immune system cascade of the wound healing process.

- **Option B:** To further complicate matters, these wounds have defects in angiogenesis and neovascularization. Normally, wound hypoxia stimulates mobilization of endothelial progenitor cells via vascular endothelial growth factor (VEGF). In diabetic wounds, there are aberrant levels of VEGF and other angiogenic factors such as angiopoietin-1 and angiopoietin-2 that lead to dysangiogenesis.
- **Option D:** Diabetic neuropathy may also play a role in poor wound healing. Lower levels of neuropeptides, as well as reduced leukocyte infiltration as a result of sensory denervation, have been shown to impair wound healing. When combined, all these diverse factors play a role in the formation and propagation of chronic, debilitating wounds in patients with diabetes.