

Kevin's Review - 85 NCLEX Practice Questions

1. Which insulin can be administered through continuous intravenous infusion?

- A. insulin glargine (Lantus)
- B. insulin aspart (Novolog)
- C. insulin detemir (Levemir)
- D. insulin Afrezza
- E. regular insulin (Novolin R)

Correct Answer: E. regular insulin (Novolin R)

Regular insulin is a short-acting insulin that can be given intravenously in a continuous manner. For intravenous infusions, to minimize insulin adsorption to plastic IV tubing, flush the intravenous tube with a priming infusion of 20 mL from a 100 mL-polyvinyl chloride bag insulin every time a new intravenous tubing is added to the insulin infusion container.

- **Option A:** Insulin glargine comes either in 100 ml vials or in dosing pens that contain 3 ml cartridges of medication and is administered via subcutaneous injection only. The drug is available at a concentration of 100 units per ml. Its administration includes a diluent with a pH of 4.0 to maintain the solubility of the drug before use.
- **Option B:** Insulin aspart should be administered subcutaneously (SC) within 5 to 10 minutes before a meal, with 1 to 4 meals per day. Rotate injection sites between the top of thighs, back of upper arms, buttocks, or abdomen to avoid lipodystrophy. Avoid injecting within 2 inches of the naval.
- **Option C:** Long-acting insulins, such as glargine and detemir, start action in 1 to 2 hours. They provide a plateau effect over 12 to 24 hours. Dosing is usually during the night time after meals. Their long duration of action helps in reducing the frequency of dosing throughout the day.
- **Option D:** Insulin degludec is a long-acting, man-made version of human insulin. Insulin degludec works by replacing the insulin that is normally produced by the body and by helping move sugar from the blood into other body tissues where it is used for energy. It also stops the liver from producing more sugar. Insulin degludec comes as a solution (liquid) to inject subcutaneously (under the skin). It is injected once a day.

2. While performing a physical examination on a newborn, which assessment should be reported to the physician?

- A. Head circumference of 40 cm.
- B. Chest circumference of 32 cm.
- C. Acrocyanosis and edema of the scalp.
- D. Heart rate of 160 and respirations of 40.

Correct Answer: A. Head circumference of 40 cm

Average circumference of the head for a neonate ranges between 32 to 36 cm. An increase in size may indicate hydrocephalus or increased intracranial pressure. A newborn's head is usually about 2 cm larger than the chest size. Between 6 months and 2 years, both measurements are about equal. After 2 years, the chest size becomes larger than the head.

- **Option B:** The body of a normal newborn is essentially cylindrical; head circumference slightly exceeds that of the chest. For a term baby, the average circumference of the head is 33–35 cm (13–14 inches), and the average circumference of the chest is 30–33 cm (12–13 inches).
- **Option C:** Peripheral cyanosis (acrocyanosis) involves the hands, feet, and circumoral area. It is evident in most infants at birth and for a short time thereafter. If limited to the extremities in an otherwise normal infant, it is due to venous stasis and is innocuous. Localized cyanosis may occur in presenting parts, particularly in association with abnormal presentations.
- **Option D:** Heart rates normally fluctuate between 120 and 160 beats per minute. In agitated states, a rate of 200 beats per minute may occur transiently. The heart rate of premature infants is usually between 130 and 170 beats per minute, and during occasional episodes of bradycardia, it may slow to 70 beats per minute or less. Normal neonates breathe at rates that vary between 40 and 60 respirations per minute. Rapid rates are likely to be present for the first few hours after birth.

3. An American nurse tries to speak with a Korean client who cannot understand the English language. To effectively communicate to a client with a different language, which of the following should the nurse implement?

- A. Have an interpreter to translate.
- B. Speak slowly.
- C. Speak loudly and closely to the client.
- D. Speak to the client and family together.

Correct Answer: A. Have an interpreter to translate.

Having an interpreter would be the best practice when communicating with a client who speaks a different language. When nurses and their patients don't speak the same language, providing quality medical care and making the patient feel comfortable and cared for can be exponentially more challenging. It can be difficult to inform a patient or be confident about consent given when the patient primarily communicates in their mother tongue.

- **Option B:** Language barriers exacerbate all other challenges nurses face when providing care for culturally diverse patients. To effectively communicate with a patient to ask them about their health history or to educate them about a procedure, the language barrier must be broken in some way.
- **Option C:** Ask the facility if a translator is available. Most hospitals do have translators on staff, but a smaller doctor's office may not. Explore translation technology — while it may not be 100% accurate, it can help the nurse better understand patients and the patients better understand their nurse.
- **Option D:** Use pictures or hand gestures to communicate when necessary, and remember to be patient. Language barriers are frustrating for both the nurse and the patient, but the patient is at a distinct disadvantage. If there's a language barrier, a translator can help. Essentially, this will help the nurse determine how much of what she is saying has been understood and how she might be able to change the way she communicates to improve the patient's understanding.

4. Which information should be reported to the state Board of Nursing?

- A. The facility fails to provide literature in both Spanish and English.
- B. The narcotic count has been incorrect on the unit for the past 3 days.

- C. The client fails to receive an itemized account of his bills and services received during his hospital stay.
- D. The nursing assistant assigned to the client with hepatitis fails to feed the client and give the bath.

Correct Answer: B. The narcotic count has been incorrect on the unit for the past 3 days.

General advice from the Department of Health is that stocks of controlled drugs should be kept to the minimum required to meet the clinical needs of patients. They should be stored securely in a locked cabinet or safe to prevent unauthorised access, with the keys held in a safe place.

- **Option A:** The Joint Commission conducts inspections with two main objectives: To evaluate the healthcare organization using TJC performance measures and standards. To educate and guide the organization's staff in "good practices" to help improve the organization's performance.
- **Option C:** The Joint Commission on Accreditation of Hospitals will probably be interested in the problem in answer A. The Joint Commission offers many benefits to their members. They help members organize and strengthen their patient improvement programs and safety efforts. They raise health care consumer and community confidence in the quality of the organization's care, services and treatment. This provides a competitive edge in the healthcare industry and a proven framework for organizational management. The Joint Commission helps to reduce risk management, liability insurance, and employee turnover costs.
- **Option D:** The failure of the nursing assistant to care for the client with hepatitis might result in termination but is not of interest to the Joint Commission. The Joint Commission monitors and advocates for legislation that promotes better patient safety. When it comes to state legislation, The Joint Commission collaborates with patient safety authorities and state regulatory bodies to minimize unrealistic expectations and reform outdated rules. They push state regulatory bodies to rely more on private accreditation instead of mandatory state licensure inspections.

5. Which beliefs guide the constructivist paradigm? Select all that apply.

- A. There are multiple realities.
- B. The truth is objective.
- C. Context does not matter as much as truth.
- D. The participant (subject) is an active part of the study.
- E. Knowledge is gained through facts.

Correct Answer: A, D

Constructivism implies that reality is constructed through human interaction. Knowledge is a human product and is socially and culturally constructed. Individuals create meaning through their interactions with each other and with the environment in which they live. Social constructivism emphasizes the importance of culture and context in the process of knowledge construction and accumulation.

- **Option A:** In social constructivism, human interests are important for research purposes and knowledge is constructed through social interaction. Such knowledge is shared rather than an individual experience. According to constructivists, reality is a subjective creation. There is no single reality. Race, for example, is a social construct. Claiming that people are different based on the skin of their color is a (subjective) social construct.
- **Option B:** The aim of constructivist research is to understand particular situations or phenomena. Rich data is gathered from which ideas can be formed. The interaction of a number of people is researched, mostly to solve social problems of the target group.

- **Option C:** Learners add to and reshape their mental models of reality through social collaboration, building new understandings as they actively engage in learning experiences. Scaffolding, i.e. guidance and support, play an important role in the learning process. Research is, of course, largely a learning process and researchers on any level can use it to gain knowledge and to structure their research.
- **Option D:** Social constructivism is based on the principles of constructivism. Like positivism, social constructivism also uses observation to gather information. Different from positivism, the researcher is part of what is being observed in social constructivism.
- **Option E:** Positivism and constructivism are not the same. Both are epistemologies that present a different idea of what constitutes knowledge. However, positivism is a philosophical stance that emphasizes that knowledge should be gained through observable and measurable facts, whereas constructivism states that reality is a social construct.

6. Nurse Marge teaches the family of a client with major depression disorder. Which of the following information should be included in the teaching? Select all that apply.

- A. Depression is characterized by sadness, feelings of hopelessness, and decreased self-worth
- B. It is common for a depressed individual to have thoughts of suicide.
- C. Attempts to cheer up a person with depression are often helpful.
- D. Talk therapy, along with antidepressant medications, is usually the treatment.
- E. Someone with depression may be preoccupied with spending money and too busy to sleep.
- F. Encourage a person with depression to keep a regular routine of activity and rest.

Correct Answer: A, B, D, F

These statements about major depressive disorders provide correct information and will be helpful to the client's family. Depression exists on a continuum of severity, ranging from relatively mild, transient states of low mood to severe, long term symptoms that have a major impact on a person's quality of life. When a person's symptoms have reached the chronic end of the spectrum and require professional treatment, it's typically referred to as clinical depression.

- **Option A:** Also known as major depressive disorder or unipolar depression, this form is what most people think of when they hear "depression." Major depression is typically characterized by sadness, feelings of emptiness, and feelings of worthlessness or guilt.
- **Option B:** Thinking about death or dying or planning or attempting suicide is a symptom of major depression. Encourage clients to express feelings (anger, sadness, guilt) and come up with alternative ways to handle feelings of anger and frustration.
- **Option C:** It is better to acknowledge the client's sad mood and offer reassurance that his mood will improve. 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 D:** Psychotherapy is another popular choice for treating depression, both on its own and combined with antidepressants. Psychotherapy involves working with a therapist, either by yourself or with a group, to talk through how you feel, your experiences, and how you view yourself and the world.

- **Option E:** This is more characteristic of someone in a manic phase of bipolar disorder. Have valuables, credit cards, and large sums of money sent home with family or put in hospital safe until the client is discharged. During manic episodes, people give away valuables and money indiscriminately to strangers, often leaving themselves broke and in debt.
- **Option F:** When the client is in the most depressed state, involve the client in a one-to-one activity. Maximizes the potential for interactions while minimizing anxiety levels. Involve the client in gross motor activities that call for very little concentration (e.g., walking). Such activities will aid in relieving tensions and might help in elevating the mood.

7. Nurse Rose is aware that the statement that best explains why furosemide (Lasix) is administered to treat hypertension is:

- A. It dilates peripheral blood vessels.
- B. It decreases sympathetic cardio acceleration.
- C. It inhibits the angiotensin-converting enzymes.
- D. It inhibits the reabsorption of sodium and water in the loop of Henle.

Correct Answer: D. It inhibits the reabsorption of sodium and water in the loop of Henle.

Furosemide is a loop diuretic that inhibits sodium and water reabsorption in the loop Henle, thereby causing a decrease in blood pressure.

- **Option A:** Vasodilators cause dilation of peripheral blood vessels, directly relaxing vascular smooth muscle and decreasing blood pressure.
- **Option B:** Adrenergic blockers decrease sympathetic cardio acceleration and decrease blood pressure.
- **Option C:** Angiotensin-converting enzyme inhibitors decrease blood pressure due to their action on angiotensin.

8. Rosana is in the second stage of Alzheimer's disease who appears to be in pain. Which question by Nurse Jenny would best elicit information about the pain?

- A. "Where is your pain located?"
- B. "Do you hurt? (pause) "Do you hurt?"
- C. "Can you describe your pain?"
- D. "Where do you hurt?"

Correct Answer: B. "Do you hurt? (pause) "Do you hurt?"

When speaking to a client with Alzheimer's disease, the nurse should use close-ended questions. Those that the client can answer with "yes" or "no" whenever possible and avoid questions that require the client to make choices. Repeating the question aids comprehension. Alzheimer's disease and other dementias gradually diminish a person's ability to communicate. Communication with a person with Alzheimer's requires patience, understanding, and good listening skills.

- **Option A:** Alzheimer's, sometimes referred to as moderate Alzheimer's, is typically the longest and can last for many years. As the disease progresses, the person will have greater difficulty

communicating and will require more direct care. Ask yes or no questions. For example, "Would you like some coffee?" rather than "What would you like to drink?" Ask one question at a time.

- **Option C:** Engage the person in one-on-one conversation in a quiet space that has minimal distractions. Speak slowly and clearly. Give the person plenty of time to respond so he or she can think about what to say. Be patient and offer reassurance. It may encourage the person to explain his or her thoughts.
- **Option D:** Maintain eye contact. It shows you care about what he or she is saying. Offer clear, step-by-step instructions for tasks. Lengthy requests may be overwhelming. Avoid criticizing or correcting. Instead, listen and try to find the meaning in what the person says. Repeat what was said to clarify.

9. Which of the following variables will he likely exclude in his study?

- A. Competence of nurses
- B. Caring attitude of nurses
- C. Salary of nurses
- D. Responsiveness of staff

Correct Answer: C. Salary of nurses

The salary of staff nurses is not an indicator of patient satisfaction, hence need not be included as a variable in the study. A variable in research simply refers to a person, place, thing, or phenomenon that the researcher is trying to measure in some way. The best way to understand the difference between a dependent and independent variable is that the meaning of each is implied by what the words tell us about the variable the researcher is using.

- **Option A:** The competence of nurses can affect the patient's satisfaction rate, therefore it is an independent variable. The variable that is stable and unaffected by the other variables the researcher is trying to measure. It refers to the condition of an experiment that is systematically manipulated by the investigator. It is the presumed cause.
- **Option B:** The caring attitude of the nurses can affect the patient's satisfaction rate, therefore it is an independent variable. An important distinction has to do with the term 'variable' is the distinction between an independent and dependent variable. This distinction is particularly relevant when the researcher is investigating cause-effect relationships.
- **Option D:** The responsiveness of the staff can affect the patient's satisfaction rate, therefore it is an independent variable. Anything that can vary can be considered a variable. For instance, age can be considered a variable because age can take different values for different people or for the same person at different times.

10. Nurse Monett is caring for a client recovering from gastrointestinal bleeding. The nurse should:

- A. Plan care so the client can receive 8 hours of uninterrupted sleep each night.
- B. Monitor vital signs every 2 hours.
- C. Make sure that the client takes food and medications at prescribed intervals.
- D. Provide milk every 2 to 3 hours.

Correct Answer: C. Make sure that the client takes food and medications at prescribed intervals.

Food and drug therapy will prevent the accumulation of hydrochloric acid or will neutralize and buffer the acid that does accumulate.

- **Option A:** Uninterrupted sleep for 8 hours is good, but it does not directly affect the production of acid.
- **Option B:** Monitoring vital signs every 2 hours is unnecessary. It can be monitored every shift or every 4 hours.
- **Option D:** Milk could aggravate the production of hydrochloric acid. The nutrients in milk, particularly fat, may stimulate the stomach to produce more acid.

11. Which of the following would be the priority nursing diagnosis for a client with an ectopic pregnancy?

- A. Risk for infection
- B. Pain
- C. Knowledge Deficit
- D. Anticipatory Grieving

Correct Answer: B. Pain

For the client with an ectopic pregnancy, lower abdominal pain, usually unilateral, is the primary symptom. Thus, pain is the priority.

- **Option A:** Although the potential for infection is always present, the risk is low in ectopic pregnancy because pathogenic microorganisms have not been introduced from external sources.
- **Option C:** The client may have limited knowledge of the pathology and treatment of the condition. The mechanisms responsible for ectopic implantation are unknown. The four main possibilities are anatomic obstruction to the passage of the zygote, an abnormal conceptus, abnormalities in the mechanisms responsible for tubal motility, and transperitoneal migration of the zygote.
- **Option D:** By far the most common emotional reaction after having an ectopic pregnancy is finding oneself suddenly overcome with intense emotions of reliving some aspects of the diagnosis and treatment of the ectopic pregnancy when the woman did not want to. She may also get palpitations, or feel anxious or agitated when reminded of the ectopic pregnancy. These are called flashbacks. She may experience nightmares or bad dreams and have a sense of being “on edge”, irritable, or more anxious. Some women also experience a sense of being detached and numb and that the ectopic pregnancy has changed them in some negative way.

12. Which of the following nursing interventions should be implemented to manage a client with appendicitis?

- A. Assessing pain.
- B. Encouraging oral intake of clear fluids.
- C. Providing discharge teaching.
- D. Assessing for symptoms of peritonitis.

Correct Answer: D. Assessing for symptoms of peritonitis

The focus of care is to assess for peritonitis, or inflammation of the peritoneal cavity. Peritonitis is most commonly caused by appendix rupture and invasion of bacteria, which could be lethal. Monitor vital signs. Note onset of fever, chills, diaphoresis, changes in mentation, reports of increasing abdominal pain. This can be suggestive of the presence of infection or developing sepsis, abscess, peritonitis.

- **Option A:** The client with appendicitis will have pain that should be controlled with analgesia. Assess pain, noting location, characteristics, severity (0–10 scale). Investigate and report changes in pain as appropriate. Keep the client at rest in semi-Fowler's position to lessen the pain. Gravity localizes inflammatory exudate into the lower abdomen or pelvis, relieving abdominal tension, which is accentuated by a supine position.
- **Option B:** The nurse should discourage oral intake in preparation for surgery. Aperients should also be avoided as induced peristalsis may cause perforation. If appendicitis has been diagnosed regular analgesia, usually an opioid depending on the pain severity, should be given to make the patient comfortable before treatment.
- **Option C:** Discharge teaching is important; however, in the acute phase, management should focus on minimizing preoperative complications and recognizing when such may be occurring.

13. Which of the following antituberculosis drugs can damage the 8th cranial nerve?

- A. Isoniazid (INH)
- B. Para Aminosalicic acid (PAS)
- C. Ethambutol hydrochloride (Myambutol)
- D. Streptomycin

Correct Answer: D. Streptomycin

Streptomycin is an aminoglycoside and damage to the 8th cranial nerve (ototoxicity) is a common side effect of aminoglycosides. Ototoxicity and vestibular impairment are often thought to be the hallmark of streptomycin toxicity. In extreme cases, deafness may occur due to ototoxicity, thus caution must be exercised when combining streptomycin with other potentially ototoxic drugs. Vestibular impairment usually manifests during the course of treatment and is typically permanent.

- **Option A:** Isoniazid may cause serious damage to the liver. Isoniazid is metabolized primarily by the liver, by acetylation of N-acetyltransferase 2 (NAT2). Three metabolites have implications that correlate with the liver injury associated with the drug: acetyl hydrazine (AcHz), hydrazine (Hz), and a metabolite from the bioactivation of isoniazid itself. There is considerable variation in acetylation rate and elimination half-life from individual to individual, which is not accounted for by dose and concentration, and this appears to contribute to risk for hepatotoxicity as well as the other adverse effects associated with isoniazid.
- **Option B:** Despite having excellent efficacy against TB in both in vitro experiments and clinical trials, PAS was eventually replaced with better-tolerated ethambutol due to gastrointestinal disturbance associated with the usage of PAS.
- **Option C:** One of the most well-known adverse effects is ototoxicity. The effect of ototoxicity is dose-related, with greater than 40% of adults developing toxicity at doses that were greater than 50 mg/kg and around 0 to 3% of adults developing toxicity at 15 mg/kg/daily. The manifestation of EMB-induced optic neuropathy appears to be from EMB's chelation of copper. A study with 60 patients undergoing treatment with ethambutol monitored their serum copper levels.

14. Upon assessment, the nurse got the following findings: two (2) perineal pads highly saturated with blood within 2 hours postpartum, PR= 80 bpm, fundus soft, and boundaries not well defined. The appropriate nursing diagnosis is:

- A. Normal blood loss
- B. Blood volume deficiency
- C. Inadequate tissue perfusion related to hemorrhage
- D. Hemorrhage secondary to uterine atony

Correct Answer: D. Hemorrhage secondary to uterine atony

All the signs in the stem of the question are signs of hemorrhage. If the fundus is soft and boundaries not well defined, the cause of the hemorrhage could be uterine atony.

- **Option A:** It is normal to lose some blood after giving birth. Women usually lose about half a quart (500 milliliters) during vaginal birth or about 1 quart (1,000 milliliters) after a cesarean birth.
- **Option B:** Trauma is among the most frequent causes of hypovolemia, with its often profuse attendant blood loss. The consequences of hypovolemia include reduction in circulating blood volume, lower venous return, and in profound cases, arterial hypotension.
- **Option C:** Insufficient arterial blood flow causes decreased nutrition and oxygenation at the cellular level. Decreased tissue perfusion can be temporary, with few or minimal consequences to the health of the patient, or it can be more acute or protracted, with potentially destructive effects on the patient.

15. When a pregnant woman goes into a convulsive seizure, the MOST immediate action of the nurse to ensure the safety of the patient is:

- A. Apply restraint so that the patient will not fall out of bed.
- B. Put a mouth gag so that the patient will not bite her tongue and the tongue will not fall back.
- C. Position the mother on her side to allow the secretions to drain from her mouth and prevent aspiration.
- D. Check if the woman is also having precipitate labor.

Correct Answer: C. Position the mother on her side to allow the secretions to drain from her mouth and prevent aspiration.

Positioning the mother on her side will allow the secretions that may accumulate in her mouth to drain by gravity thus preventing aspiration pneumonia.

- **Option A:** Placing a patient who is in seizure in restraints would further injure him or her. Place the patient on a flat, firm surface during seizure.
- **Option B:** Putting a mouth gag is not safe since during the convulsive seizure the jaw will immediately lock.
- **Option D:** The mother may go into labor also during the seizure, but the immediate concern of the nurse is the safety of the baby. After the seizure, check the perineum for signs of precipitate labor.

16. A 32-year-old female presents to the clinic with a recent diagnosis of condylomata acuminata (genital warts). She is concerned about the implications of her diagnosis and future health risks. Which of the following statements by the nurse is most appropriate?

- A. "This condition increases your risk for cervical cancer. It's important to have a Papanicolaou (Pap) smear annually."
- B. "The usual treatment for this is metronidazole (Flagyl), which typically resolves the issue within 7 to 10 days."
- C. "Using condoms every time during sexual intercourse significantly reduces, but does not completely eliminate, the risk of transmitting the virus to your partner."
- D. "The human papillomavirus (HPV), responsible for your condition, can still be transmitted during oral sex."

Correct Answer: A. "This condition increases your risk for cervical cancer. It's important to have a Papanicolaou (Pap) smear annually."

Women with condylomata acuminata are at risk for cancer of the cervix and vulva. Yearly Pap smears are very important for early detection. Because condylomata acuminata is a virus, there is no permanent cure.

- **Option B:** Genital warts may be treated with imiquimod, podophyllin and podofilox, trichloroacetic acid, and sinecatechins. These are all topical treatments that the physician or even the client may apply.
- **Option C:** Because condylomata acuminata can occur on the vulva, a condom won't protect sexual partners.
- **Option D:** HPV can be transmitted to other parts of the body, such as the mouth, oropharynx, and larynx.

17. A female client must take streptomycin for tuberculosis. Before therapy begins, the nurse should instruct the client to notify the physician if a health concern occurs?

- A. Impaired color discrimination
- B. Increased urinary frequency
- C. Decreased hearing acuity
- D. Increased appetite

Correct Answer: C. Decreased hearing acuity

Decreased hearing acuity indicates ototoxicity, a serious adverse effect of streptomycin therapy. The client should notify the physician immediately if it occurs so that streptomycin can be discontinued and an alternative drug can be prescribed. Ototoxicity and vestibular impairment are often thought to be the hallmark of streptomycin toxicity. In extreme cases, deafness may occur due to ototoxicity, thus caution must be exercised when combining streptomycin with other potentially ototoxic drugs. The other options aren't associated with streptomycin.

- **Option A:** Impaired color discrimination indicates color blindness. There are also reports of neuromuscular blockade with streptomycin use in association with installation into body cavities,

use during anesthesia involving the use of neuromuscular blocking agents, and overdose in children. Neurotoxic effects can lead to optic nerve dysfunction, peripheral neuritis, and encephalopathy.

- **Option B:** Increased urinary frequency accompanies diabetes mellitus. Monitoring for streptomycin toxicity is especially important in the young and patients with renal impairment, as streptomycin occurs via glomerular filtration. Renal impairment can lead to a prolonged half-life of 50 to 100 hours.
- **Option D:** Increased appetite is not associated with streptomycin. Monitoring is based on the limited therapeutic index of aminoglycosides and known toxicities, particularly nephrotoxicity and ototoxicity. In general, clinicians should avoid concomitant use of additional medications with possible ototoxic or nephrotoxic effects.

18. A client with pernicious anemia asks why she must take vitamin B12 injections for the rest of her life. What is the nurse's best response?

- A. "The reason for your vitamin deficiency is an inability to absorb the vitamin because the stomach is not producing sufficient acid."
- B. "The reason for your vitamin deficiency is an inability to absorb the vitamin because the stomach is not producing sufficient intrinsic factor."
- C. "The reason for your vitamin deficiency is an excessive excretion of the vitamin because of kidney dysfunction."
- D. "The reason for your vitamin deficiency is an increased requirement for the vitamin because of rapid red blood cell production."

Correct Answer: B. "The reason for your vitamin deficiency is an inability to absorb the vitamin because the stomach is not producing sufficient intrinsic factor."

Most clients with pernicious anemia have deficient production of intrinsic factor in the stomach. Intrinsic factor attaches to the vitamin in the stomach and forms a complex that allows the vitamin to be absorbed in the small intestine. Intrinsic factor antibodies are immunoglobulin G isotype, and they can be either type 1 or type 2 antibodies. Type 1 operates against the cobalamin binding site, whereas type 2 directs its activity against the ileal mucosa receptor. B12 and intrinsic factor bind to receptors on the ileum, which allows for absorption.

- **Option A:** Pernicious anemia (PA) is megaloblastic anemia resulting from a deficiency of cobalamin (vitamin B12), which in turn is caused by a lack of intrinsic factor (IF). Intrinsic factor is a glycoprotein that binds cobalamin and thereby enables its absorption in the terminal ileum. Autoimmune gastritis is characterized by the destruction of gastric parietal cells and the resulting lack of the glycoprotein intrinsic factor secreted by these cells. The antibodies identified with autoimmunity are intrinsic factor antibodies (IFA) and parietal cell antibodies (PCA).
- **Option C:** Vitamin B12, once absorbed, is a cofactor for the enzyme methionine synthase, which takes part in the conversion of homocysteine to methionine. If this process cannot occur due to pernicious anemia, homocysteine levels accumulate, and pyrimidine bases cannot form, which interferes with DNA synthesis and causes megaloblastic anemia.
- **Option D:** The stomach is producing enough acid, there is not an excessive excretion of the vitamin, and there is not a rapid production of RBCs in this condition. Vitamin B12 is also a cofactor for the enzyme methylmalonyl-CoA mutase, which converts methylmalonyl-CoA to succinyl-CoA. In patients with pernicious anemia, methylmalonic acid (MMA) levels accumulate. Elevated levels of MMA and homocysteine contribute to myelin damage, which causes neurologic deficits, such as

neuropathy and ataxia.

19. Anne, who is drinking beer at a party, falls and hits her head on the ground. Her friend Liza dials “911” because Anne is unconscious, depressed ventilation (shallow and slow respirations), rapid heart rate, and is profusely bleeding from both ears. Which primary acid-base imbalance is Anne at risk for if medical attention is not provided?

- A. Metabolic Acidosis
- B. Metabolic Alkalosis
- C. Respiratory Acidosis
- D. Respiratory Alkalosis

Correct Answer: C. Respiratory Acidosis

One of the risk factors of having respiratory acidosis is hypoventilation which may be due to brain trauma, coma, and hypothyroidism or myxedema. Other risk factors include COPD, Respiratory conditions such as pneumothorax, pneumonia, and status asthmaticus. Drugs such as Morphine and MgSO₄ toxicity are also risk factors of respiratory acidosis.

20. The nurse is caring for a woman 2 hours after a vaginal delivery. Documentation indicates that the membranes were ruptured for 36 hours prior to delivery. What are the priority nursing diagnoses at this time?

- Altered tissue perfusion
- Risk for fluid volume deficit
- High risk for hemorrhage
- Risk for infection

Correct Answer: D. Risk for infection

Membranes ruptured over 24 hours prior to birth greatly increases the risk of infection to both mother and the newborn. Rupture of membranes results from a variety of factors that ultimately lead to accelerated membrane weakening. This is caused by an increase in local cytokines, an imbalance in the interaction between matrix metalloproteinases and tissue inhibitors of matrix metalloproteinases, increased collagenase and protease activity, and other factors that can cause increased intrauterine pressure.

- **Option A:** There should be little or no alteration in perfusion after premature rupture of the membranes. Decreased tissue perfusion can be temporary, with few or minimal consequences to the health of the patient, or it can be more acute or protracted, with potentially destructive effects on the patient. When diminished tissue perfusion becomes chronic, it can result in tissue or organ damage or death.
- **Option B:** There may be a risk for deficient fluid volume, but it is not a priority. Fluid volume deficit (FVD) or hypovolemia is a state or condition where the fluid output exceeds the fluid intake. It occurs when the body loses both water and electrolytes from the ECF in similar proportions. Common sources of fluid loss are the gastrointestinal tract, polyuria, and increased perspiration.

- **Option C:** Hemorrhage is not a great risk in premature rupture of membranes. One of the complications of PROM is intraventricular hemorrhage. This is because blood vessels in the brain of premature infants are not fully developed, and are therefore weaker than that of term babies. Research shows that intraventricular hemorrhages (IVH) or brain bleeds are significantly reduced by steroid treatment, without an increase in either maternal or neonatal infection.

21. Dr. Allen, a seasoned neuroendocrinologist, is presenting a case to the students about a 45-year-old patient who suffers from insomnia. The patient has tried multiple therapies and medications with limited success. As part of the discussion on possible treatments, Dr. Allen touches on the hormone melatonin, which has been suggested as a potential supplement for this patient. The professor subsequently challenges the students to identify any misconceptions regarding melatonin based on the information provided during the lecture.

- A. Melatonin induces heat loss, reduces arousal and related brain activity and delays production of cortisol.
- B. It helps regulate biological rhythms such as sleep and wake cycles.
- C. The secretion of melatonin is inhibited by darkness and triggered by light.
- D. The pineal gland produces and secretes the hormone.

Correct Answer: C. The secretion of melatonin is inhibited by darkness and triggered by light.

The secretion of melatonin is inhibited by exposure to light, particularly bright or natural light. It is triggered by darkness or low light levels. When the retina in the eye detects reduced light, it signals the pineal gland in the brain to release melatonin, which helps regulate the sleep-wake cycle and prepare the body for sleep.

- **Option A:** Melatonin induces heat loss, reduces arousal and related brain activity, and delays production of cortisol. This statement is true. Melatonin has a calming effect on the body and contributes to setting the body's internal clock to prepare for sleep.
- **Option B:** It helps regulate biological rhythms such as sleep and wake cycles. This statement is true. Melatonin is closely related to the regulation of the sleep-wake cycle, playing a vital role in initiating sleep.
- **Option D:** The pineal gland produces and secretes the hormone. This statement is true. The pineal gland, located in the brain, is the primary source of melatonin production and secretion in the body.

22. Parents can facilitate the adjustment of their other children to a new baby by:

- A. Having the children choose or make a gift to give to the new baby upon its arrival home.
- B. Emphasizing activities that keep the new baby and other children together.
- C. Having the mother carry the new baby into the home so she can show the other children the new baby.
- D. Reducing stress on others by limiting their involvement in the care of the new baby.

Correct Answer: A. Having the children choose or make a gift to give to the new baby upon its arrival home.

Special time should be set aside just for the other children without interruption from the newborn. Someone other than the mother should carry the baby into the home so she can give full attention to greeting her other children. Children should be actively involved in the care of the baby according to their ability without overwhelming them.

- **Option B:** When the new baby arrives, have a family member or friend bring the child to the hospital or birth center for a brief visit. Allow another loved one to hold the baby for a while so that both parents can give the older child plenty of cuddles.
- **Option C:** When the baby is home, take the older child to a special place — such as a favorite playground — to celebrate the new baby's arrival.
- **Option D:** Sometimes older children — stressed by the changes happening around them — take out their frustration on a new baby. If the older child tries to harm the baby, it's time for a talk about appropriate behavior. Also, give the older child extra attention and include him or her in activities that involve the baby, such as singing, bathing, or changing diapers. Praise the older child when he or she acts lovingly toward the new baby.

23. The client with antisocial personality disorder:

- A. Suffers from a great deal of anxiety.
- B. Is generally unable to postpone gratification.
- C. Rapidly learns by experience and punishment.
- D. Has a great sense of responsibility toward others.

Correct Answer: B. Is generally unable to postpone gratification.

Individuals with this disorder tend to be self-centered and impulsive. They lack judgment and self-control and do not profit from their mistakes. Antisocial personality disorder (ASPD) is a deeply ingrained and rigid dysfunctional thought process that focuses on social irresponsibility with exploitive, delinquent, and criminal behavior with no remorse. Disregard for and the violation of others' rights are common manifestations of this personality disorder, which displays symptoms that include failure to conform to the law, inability to sustain consistent employment, deception, manipulation for personal gain, and incapacity to form stable relationships.

- **Option A:** Antisocial personality disorder (ASPD) is a condition characterized by a lack of empathy and regard for other people. People who have antisocial personality disorder have little or no regard for right or wrong. They antagonize and often act insensitively or in an unfeeling manner. Individuals with this disorder may lie, engage in aggressive or violent behavior, and participate in criminal activity.
- **Option C:** People with ASPD often have legal problems resulting from failures to conform to social norms and a lack of concern for the rights of others. They display a lack of remorse for damaging behavior. As adults, the disorder can be destructive to both the person living with it and those who come into contact with them. People with antisocial personality disorder are more likely to engage in risk-taking behaviors, dangerous activities, and criminal acts. Those with the disorder are often described as having no conscience and feel no regret or remorse for their harmful actions.
- **Option D:** They frequently lie and deceive others for personal gain. They have difficulty feeling empathy for others. These characteristics often lead to major difficulties in many life areas. At its core, the inability to consider the thoughts, feelings, and motivations of other people can lead to

harmful disregard for others.

24. A client arrives at the emergency department who suffered multiple injuries from a head-on car collision. Which of the following assessment should take the highest priority to take?

- A. Unequal pupils
- B. Irregular pulse
- C. Ecchymosis in the flank area
- D. A deviated trachea

Correct Answer: D. A deviated trachea

A deviated trachea is a symptom of tension pneumothorax, which will result in respiratory distress if left untreated. The first question in the ESI triage algorithm for triage nurses asks whether “the patient requires immediate life-saving interventions” or simply “is the patient dying?” The nurse determines this by looking to see if the patient has a patent airway, if the patient is breathing, and does the patient has a pulse.

- **Option A:** Another scale used by nurses in the assessment is if the patient is meeting criteria for a true level 1 trauma is the AVPU (alert, verbal, pain, unresponsive) scale. The scale is used to evaluate if the patient had a recent or sudden change in the level of consciousness and needs immediate intervention.
- **Option B:** The nurse evaluates the patient, checking pulse, rhythm, rate, and airway patency. Is there concern for inadequate oxygenation? Is this person hemodynamically stable? Does the patient need any immediate medication or interventions to replace volume or blood loss? Does this patient have pulselessness, apnea, severe respiratory distress, oxygen saturation below 90, acute mental status changes, or unresponsiveness?
- **Option C:** If the patient is not categorized as a level 1, the nurse then decides if the patient should wait or not. This is determined by three questions; is the patient in a high-risk situation, confused, lethargic, or disoriented? Or is the patient in severe pain or distress? The high-risk patient is one who could easily deteriorate, one who could have a threat to life, limb, or organ.

25. Exceeding which of the following serum cholesterol levels significantly increases the risk of coronary artery disease?

- A. 100 mg/dl
- B. 150 mg/dl
- C. 175 mg/dl
- D. 200 mg/dl

Correct Answer: D. 200 mg/dl

Cholesterol levels above 200 mg/dl are considered excessive. They require dietary restriction and perhaps medication. Exercise also helps reduce cholesterol levels. The other levels listed are all below the nationally accepted levels for cholesterol and carry a lesser risk for CAD. The normal level of serum cholesterol is within 125 to 200 mg/dl.

- **Option A:** 100mg/dl is an acceptable level of serum cholesterol. An elevated low-density lipoprotein cholesterol (LDL-C) level is a major risk factor for CAD, and several large, randomized, primary prevention trials have shown that lowering LDL-C levels with statins reduces the risk of major coronary events and coronary death.
- **Option B:** 150 mg/dl is within the normal level of serum cholesterol. LDL is the particle that is responsible for transporting cholesterol to tissues. Cholesterol transportation is achieved by binding of the LDL receptor and apoB.
- **Option C:** 175 mg/dl is still an acceptable level of serum cholesterol. HDL is a molecule that is antioxidant, antiinflammatory, antiapoptotic, and increases macrophage cholesterol excretion and endothelial healing. The removal of cholesterol from the body by the liver via HDL is called reverse cholesterol transport.

26. A nurse is providing instructions to a client who is on nicotinic acid for the treatment of hyperlipidemia. Which statement made by the nurse indicates a comprehension of the instructions?

- A. "I should take aspirin 30 minutes before nicotinic acid".
- B. "I will drink alcohol in moderation".
- C. "Yellowing of the skin is a common side effect".
- D. "This medication is taken on an empty stomach".

Correct Answer: A. "I should take aspirin 30 minutes before nicotinic acid".

The use of aspirin or a nonsteroidal anti-inflammatory drug 30 minutes before decreases flushing which is a side effect of taking nicotinic acid.

- **Option B:** Drinking alcohol will cause liver abnormalities.
- **Option C:** Yellowing of the skin is a sign of liver dysfunction and should immediately inform the physician.
- **Option D:** This medication is taken with meals to decrease gastrointestinal upset.

27. Nurse Daisy is aware that the following pharmacologic agents are sedative-hypnotic medication is used to induce sleep for a client experiencing a sleep disorder is:

- A. triazolam (Halcion)
- B. paroxetine (Paxil)
- C. fluoxetine (Prozac)
- D. risperidone (Risperdal)

Correct Answer: A. triazolam (Halcion)

Triazolam is one of a group of sedative-hypnotic medications that can be used for a limited time because of the risk of dependence. Triazolam is used on a short-term basis to treat insomnia (difficulty falling asleep or staying asleep). Triazolam is in a class of medications called benzodiazepines. It works by slowing activity in the brain to allow sleep. Triazolam comes as a tablet to take by mouth. It is usually taken as needed at bedtime but not with or shortly after a meal. Triazolam may not work well if it is

taken with food.

- **Option B:** Paroxetine is a serotonin-specific reuptake inhibitor used for treatment of depression, panic disorder, and obsessive-compulsive disorder. It is FDA approved for major depressive disorder (MDD), obsessive-compulsive disorder (OCD), social anxiety disorder (SAD), panic disorder, posttraumatic stress disorder (PTSD), generalized anxiety disorder (GAD), and premenstrual dysphoric disorder (PMDD), vasomotor symptoms associated with menopause.
- **Option C:** Fluoxetine is a serotonin-specific reuptake inhibitor used for depressive disorders and obsessive-compulsive disorders. Fluoxetine has FDA-approval for major depressive disorder (age eight and older), obsessive-compulsive disorder (age seven and older), panic disorder, bulimia, binge eating disorder, premenstrual dysphoric disorder, bipolar depression (as an adjunct with olanzapine also known as Symbyax), and treatment-resistant depression when used in combination with olanzapine.
- **Option D:** Risperidone is indicated for psychotic disorders. The long-acting risperidone injection has been approved for the use of schizophrenia and maintenance of bipolar disorder (as monotherapy or adjunctive to valproate or lithium) in adults. Risperidone has also been used for augmentation of antidepressant therapy in the treatment of non-psychotic unipolar depression. In addition to irritability associated with autism, risperidone has also been used for social impairment, stereotypical behaviors, cognitive problems, and hyperactivity in autism.

28. When monitoring the daily weight of a patient with fluid volume deficit (FVD), the nurse is aware that fluid loss may be considered when weight loss begins to exceed:

- A. 0.25 lb
- B. 0.50 lb
- C. 1 lb
- D. 1 kg

Correct Answer: B. 0.50 lb

Weight loss of more than 0.50 lb. is considered to be a fluid loss. Weigh daily with the same scale, and preferably at the same time of day. Weight is the best assessment data for possible fluid volume imbalance. An increase of 2 lbs a week is considered normal.

- **Option A:** Severe dehydration by clinical examination suggests a fluid deficit of 10-15% of body weight in infants and 6-9% of body weight in older children. The daily maintenance fluid is added to the fluid deficit.
- **Option C:** In general, the recommended administration is one-half of this volume administered over 8 hours and administration of the remainder over the following 16 hours. Continued losses (eg, emesis, diarrhea) must be promptly replaced.
- **Option D:** An alternative approach to the deficit therapy approach is rapid replacement therapy. With this approach, a child with severe isotremic dehydration is administered 20-40 mL/kg of isotonic sodium chloride solution or lactated Ringer solution over 15-60 minutes.

29. What is the priority nursing diagnosis with your patient diagnosed with end-stage renal disease?

- A. Activity intolerance
- B. Fluid volume excess
- C. Knowledge deficit
- D. Pain

Correct Answer: B. Fluid volume excess

Fluid volume excess because the kidneys aren't removing fluid and wastes. The other diagnoses may apply, but they don't take priority. Renal disorder impairs glomerular filtration that results in fluid overload. With fluid volume excess, hydrostatic pressure is higher than the usual pushing excess fluids into the interstitial spaces.

- **Option A:** Schedule care and provide rest periods following an activity; allow the client to set own limits in the amount of exertion tolerated. Promotes autonomy and control of situations as the presence of a chronic disease may encourage independence.
- **Option C:** Review disease process and prognosis and future expectations. Provides a knowledge base from which the patient can make informed choices. If fluid overload is present, diuretic therapy or dialysis will be part of the regimen.
- **Option D:** Perform a comprehensive assessment of pain (location, onset, characteristics, and frequency) to be able to compare changes from previous reports to rule out worsening of underlying condition/developing complications.

30. A nurse is caring for a client with diabetic ketoacidosis and documents that the client is experiencing Kussmaul's respirations. Based on this documentation, which of the following did the nurse observe?

- A. Respirations that are abnormally deep, regular, and increased in rate.
- B. Respirations that are regular but abnormally slow.
- C. Respirations that are labored and increased in depth and rate.
- D. Respirations that cease for several seconds.

Correct Answer: A. Respirations that are abnormally deep, regular, and increased in rate.

Kussmaul's respirations are abnormally deep, regular, and increased in rate. Kussmaul respiratory pattern occurs due to increased tidal volume with or without an increased respiratory rate. It is a form of hyperventilation. It results from stimulation of the respiratory center in the brain stem by low serum pH. The effect is the lowering of the partial pressure of carbon dioxide in the alveoli, thereby compensating for metabolic acidosis.

- **Option B:** Bradypnea is an abnormally slow breathing rate. The normal breathing rate for an adult is typically between 12 and 20 breaths per minute. A respiration rate below 12 or over 25 breaths per minute while resting may signal an underlying health problem.
- **Option C:** Tachypnea is a respiratory rate that is greater than the normal for age. Tachypnea is a condition that refers to rapid breathing. The normal breathing rate for an average adult is 12 to 20 breaths per minute. In children, the number of breaths per minute can be a higher resting rate than seen in adults. Tachypnea is a term used to define rapid and shallow breathing, which should not be confused with hyperventilation, which is when a patient's breathing is rapid but deep.
- **Option D:** Cheyne-Stokes is a pattern of crescendo-decrescendo respirations followed by a period of apnea. This pattern of breathing was first described by John Cheyne, a British Physician and

William Stokes, an Irish Physician. It is well described in patients with heart failure. Usually observed while asleep and is the result of disordered central control of breathing. Its presence has implications for outcome in that cardiac resynchronization therapy improves outcomes in patients with Cheyne-Stokes Respirations.

31. A client with a diagnosis of paranoid schizophrenia comments to the nurse, "How do I know what is really in those pills?" Which of the following is the best response?

- A. Say, "You know it's your medicine."
- B. Allow him to open the individual wrappers of the medication.
- C. Say, "Don't worry about what is in the pills. It's what is ordered."
- D. Ignore the comment because it's probably a joke.

Correct Answer: B. Allow him to open the individual wrappers of the medication.

This is correct because allowing a paranoid client to open his medication can help reduce suspiciousness. Talk openly with the client about their beliefs and thoughts, showing empathy and support. Help build trust and rapport with clients. Paranoid clients may be more reluctant to trust anyone, but open communication generally offers more cooperation. Explain all procedures clearly and carefully, and their purpose, before starting them. Prevents aggressive behavior and suspicion. Promotes cooperation and compliance. Helps develop trust.

- **Option A:** This is incorrect because the client doesn't know that it's his medication and he's obviously suspicious. Discuss feelings and help the client identify behaviors that cause conflict or alienate others. Helping clients see the reality of their behaviors can help treatment progress and lead to more appropriate behaviors and interactions.
- **Option C:** Discuss and have the client demonstrate (through role-play if appropriate) more acceptable responses and reactions to behaviors and stressors. Helps the client develop more positive coping skills for dealing with delusions, suspicions, and fears. Provide reorientation as appropriate, but avoid confrontation of the delusions. The client may need to be refocused to reality at times, but avoid confrontation that may be interpreted as argumentative to avoid non-compliance and uncooperative behaviors.
- **Option D:** Telling the client not to worry or ignoring the comment isn't supportive and doesn't offer reassurance. Set behavior boundaries and enforce per facility protocols with medications or restraints as necessary. Promote the safety of clients during agitated moments and the safety of others from aggressive behaviors. Follow your facility's specific protocol regarding supervision, restraint, and documentation.

32. Which of the following respiratory patterns indicate increasing ICP in the brain stem?

- A. Slow, irregular respirations
- B. Rapid, shallow respirations
- C. Asymmetric chest expansion
- D. Nasal flaring

Correct Answer: A. Slow, irregular respirations

Neural control of respiration takes place in the brain stem. Deterioration and pressure produce irregular respiratory patterns. Raised intracranial pressure can overcome perfusion pressure causing further anoxia and injury leading to brain death and/or herniation. Although hyperventilation can lower PaCO₂, causing vasoconstriction and reduce swelling/ICP, it should be avoided.

- **Option B:** Central neurogenic hyperventilation is persistent hyperventilation typically caused by head trauma, severe brain hypoxia, or lack of cerebral perfusion. It is usually due to the midbrain and upper pons damage. Breathing patterns associated with brain injury may not be observed due to mechanical ventilation and sedation. There is a complex interplay in cases that result in brainstem injury.
- **Option C:** Central neurogenic hypoventilation occurs when the medullary respiratory centers are not responding to appropriate stimuli. Central neurogenic hypoventilation may occur with head trauma, cerebral hypoxia, and narcotic suppression.
- **Option D:** Rapid, shallow respirations, asymmetric chest movements, and nasal flaring are more characteristic of respiratory distress or hypoxia. The autoregulation of cerebral blood flow is affected by CO₂ levels in the blood. As CO₂ increases, cerebral vessels will dilate, and as they decrease, the cerebral vessels will constrict. In traumatic brain injury (TBI), the brain swells and cannot expand due to the fixed volume of the intact skull.

33. The most important instructions a nurse can give a patient regarding the use of the antibiotic ampicillin prescribed for her are to

- A. Call the physician if she has any breathing difficulties.
- B. Take it with meals so it doesn't cause an upset stomach.
- C. Take all of the medication prescribed even if the symptoms stop sooner.
- D. Not share the pills with anyone else.

Correct Answer: C. Take all of the medication prescribed even if the symptoms stop sooner.

Frequently patients do not complete an entire course of antibiotic therapy, and the bacteria are not destroyed. Ampicillin is a prescription penicillin-type antibiotic used to treat many different types of infections caused by bacteria, such as ear infections, bladder infections, pneumonia, gonorrhea, and E. coli or salmonella infection.

- **Option A:** The primary adverse effects of ampicillin include seizure, diarrhea, enterocolitis, pseudomembranous colitis, vomiting, agranulocytosis, hemolytic anemia, eosinophilia, and immune thrombocytopenia. Rashes and urticaria occur frequently. Reports also exist of some cases of erythema multiforme and exfoliative dermatitis. Anaphylaxis is the most severe complication experienced and is usually associated with the parenteral form.
- **Option B:** When administered orally, it should be on an empty stomach with 1 or 2 full glasses of water to increase absorption. The half-life of ampicillin is 0.7 to 1.5 hours in adults with normal kidney function.
- **Option D:** When administering a prolonged therapy, monitor renal, hepatic, and hematologic functions periodically. Additionally, watch for signs of anaphylaxis during the first dose. In cases of overdose, discontinuation of the medication, symptomatic treatment, and supportive care institution is necessary. In patients with decreased renal function, the antimicrobial is removable via hemodialysis but not peritoneal dialysis. Whole bowel irrigation has been proven to be effective in severe cases of oral overdoses.

34. The nurse is developing a teaching plan for the client with glaucoma. Which of the following instructions would the nurse include in the plan of care?

- A. Decrease fluid intake to control the intraocular pressure.
- B. Avoid overuse of the eyes.
- C. Decrease the amount of salt in the diet.
- D. Eye medications will need to be administered lifelong.

Correct Answer: D. Eye medications will need to be administered lifelong.

The administration of eye drops is a critical component of the treatment plan for the client with glaucoma. The client needs to be instructed that medications will need to be taken for the rest of his or her life. Stress the importance of meticulous compliance with prescribed drug therapy to prevent an increase in IOP, resulting in disk changes and loss of vision.

- **Option A:** Discuss dietary considerations (adequate fluid, bulk, or fiber intake). Measures to maintain consistency of stool to avoid constipation and straining during defecation. Stress the importance of routine checkups. It is important to monitor the progression and maintenance of disease to allow for early intervention and prevent further loss of vision.
- **Option B:** Encourage the patient to make necessary changes in lifestyle. A tranquil lifestyle decreases the emotional response to stress, preventing ocular changes that push the iris forward, which may precipitate an acute attack.
- **Option C:** Review the importance of maintaining a drug schedule like eye drops. Discuss medications that should be avoided such as mydriatic drops (atropine, propantheline bromide), overuse of topical steroids, and additive effects of [beta]-blocking when systemic [beta]-blocking agents are used.

35. Joseph is a child diagnosed with attention deficit disorder. Which of the following drugs is commonly used for his condition?

- A. methylphenidate (Ritalin)
- B. diethylpropion (Nobesine)
- C. phendimetrazine (Adipost)
- D. caffeine

Correct Answer: A. methylphenidate (Ritalin)

Methylphenidate (Ritalin) is the drug of choice for attention deficit disorder. Stimulants are further broken into amphetamines and methylphenidates. Both types of stimulants block the reuptake of dopamine at the presynaptic membranes and postsynaptic membranes. Amphetamines also directly release dopamine. Stimulants are the mainstay of treatment for ADHD. They are effective in about 70% of patients. There is a number needed to treat 2. There are multiple formulations of each subtype of stimulants including immediate-release and extended-release, long-acting, or sustained release. Side effects of stimulants include changes in blood pressure, decreasing appetite and sleep, and risk of dependency. B and C are commonly used for exogenous obesity.

- **Option B:** Anti Obesity medications can be used for BMI greater than or equal to 30 or BMI greater than or equal to 27 with comorbidities. Medications can be combined with diet, exercise, and

behavior interventions. FDA-approved antiobesity medications include phentermine, orlistat, lorcaserin, liraglutide, diethylpropion, phentermine/topiramate, naltrexone/bupropion, phendimetrazine. All the agents are used for long-term weight management.

- **Option C:** Phentermine on its own has been used for short-term treatment of obesity in combination with exercise and caloric restriction. Phentermine is a sympathomimetic amine anorectic. It has a similar mechanism of action as amphetamine in that it is an agonist at TAAR1 receptor site stimulating the release of norepinephrine and epinephrine. It is a stimulant.
- **Option D:** Caffeine is a mild CNS stimulant that is not used for attention deficit disorder. Caffeine is a naturally occurring, central nervous system (CNS) stimulant of the methylxanthine class and is the most widely taken psychoactive stimulant globally. Caffeine's primary mechanism of action is on the adenosine receptors in the brain. As it is both fat and water-soluble, it readily crosses the blood-brain barrier, resulting in antagonism to all four adenosine receptor subtypes (A1, A2a, A2b, A3). Specifically, the antagonism of the A2a receptor is responsible for the wakefulness effects of caffeine.

36. What are the characteristics of the literature review required for a quantitative research study? Select all that apply.

- A. The review is exhaustive and must include all studies conducted in the area.
- B. Doctoral dissertations and masters' theses are excellent sources of information.
- C. Computer-accessed materials are acceptable.
- D. Primary sources are not as important as secondary sources.
- E. Objective self-review of findings.

Correct Answers: B, C

Literature reviews provide important background information and details about a specific research topic. An effective literature review also provides a space to elaborate on future work to be done on a topic and allows an author to define where their work fits into a larger context.

- **Option A:** An effective literature review details important research trends and also examines strengths and weaknesses of both specific studies and larger research contexts.
- **Option B:** It is challenging to achieve a successful review on all these fronts. A solution can involve a set of complementary coauthors: some people are excellent at mapping what has been achieved, some others are very good at identifying dark clouds on the horizon, and some have instead a knack at predicting where solutions are going to come from.
- **Option C:** Given the progressive acceleration in the publication of scientific papers, today's reviews of the literature need awareness not just of the overall direction and achievements of a field of inquiry, but also of the latest studies, so as not to become out-of-date before they have been published.
- **Option D:** Most research uses both primary and secondary sources. They complement each other to help the researcher build a convincing argument. Primary sources are more credible as evidence, but secondary sources show how the work relates to existing research.
- **Option E:** In general, a review of the literature should neither be a public relations brochure nor an exercise in competitive self-denial. If a reviewer is up to the job of producing a well-organized and methodical review, which flows well and provides a service to the readership, then it should be possible to be objective in reviewing one's own relevant findings.

37. A 76-year-old male client had a thromboembolic right stroke; his left arm is swollen. Which of the following conditions may cause swelling after a stroke?

- A. Elbow contracture secondary to spasticity.
- B. Loss of muscle contraction decreasing venous return.
- C. Deep vein thrombosis (DVT) due to immobility of the ipsilateral side.
- D. Hypoalbuminemia due to protein escaping from an inflamed glomerulus.

Correct Answer: B. Loss of muscle contraction decreasing venous return

In clients with hemiplegia or hemiparesis, loss of muscle contraction decreases venous return and may cause swelling of the affected extremity.

- **Option A:** Contractures or bony calcifications may occur with a stroke, but don't appear with swelling.
- **Option C:** DVT may develop in clients with a stroke but is more likely to occur in the lower extremities.
- **Option D:** A stroke isn't linked to protein loss. Higher levels of protein were associated with a lower risk of stroke. According to a study, for every 20 grams of protein people ate per day, there is a 26 percent lower risk of stroke.

38. All of the following laboratory test results on a burned client's blood are present during the emergent phase. Which result should the nurse report to the physician immediately?

- A. Serum sodium elevated to 131 mmol/L (mEq/L)
- B. Serum potassium 7.5 mmol/L (mEq/L)
- C. Arterial pH is 7.32
- D. Hematocrit is 52%

Correct Answer: B. Serum potassium 7.5 mmol/L (mEq/L)

All these findings are abnormal; however, only the serum potassium level is changed to the degree that serious, life-threatening responses could result. With such a rapid rise in the potassium level, the client is at high risk of experiencing severe cardiac dysrhythmias and death.

- **Option A:** Serum sodium is abnormal, but not to the same degree of severity, and would be expected in the emergent phase after a burn injury. Severe cutaneous injuries such as burn injuries and blast injuries result in the loss of both water and sodium. For burn patients, hypernatremia that occurs within a few days of injury may be associated with increased risk of death.
- **Option C:** Acid-base studies were carried out on 76 consecutive burn patients admitted within 36 hours of injury. Admission blood pH and base excess (BE) values all decreased in a linear relationship to the extent of the burn. Blood Pco₂ changes were unrelated to the extent of the burn. Significant acidosis developed within 2 hours of burn injury.
- **Option D:** The hematocrit (Hct) is the percentage of the volume of the whole blood that is made up of red blood cells. In burns, the patient has lost a lot of fluid from leaky blood vessels. There are more red cells than fluid so the hematocrit is high.

39. A client tells the nurse that psychotropic medicines are dangerous and refuses to take them. Which intervention should the nurse use first?

- A. Ask the client about any previous problems with psychotropic medications.
- B. Ask the client if an injection is preferable.
- C. Insist that the client takes medication as prescribed.
- D. Withhold the medication until the client is less suspicious.

Correct Answer: A. Ask the client about any previous problems with psychotropic medications.

The nurse needs to clarify the client's previous experience with psychotropic medication in order to understand the meaning of the client's statement. 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. Explain the procedures and try to be sure the client understands the procedures before carrying them out. When the client has full knowledge of procedures, he or she is less likely to feel tricked by the staff.

- **Option B:** Asking the client if an injection is preferable may add to the client's suspicion and feeling threatened. Show empathy regarding the client's feelings; reassure the client of your presence and acceptance. The client's delusion can be distressing. Empathy conveys your caring, interest and acceptance of the client.
- **Option C:** Insisting that the client take medication can be a violation of his right to refuse treatment. Initially do not argue with the client's beliefs or try to convince the client that the delusions are false and unreal. Arguing will only increase a client's defensive position, thereby reinforcing false beliefs. This will result in the client feeling even more isolated and misunderstood.
- **Option D:** Withholding medication prescribed to relieve delusional beliefs will likely intensify paranoid thinking. Encourage healthy habits to optimize functioning: Maintain medication regimen; maintain regular sleep pattern; maintain self-care; and reduce alcohol and drug intake. All are vital to help keep the client in remission.

40. Which of the following assessment data would most likely be related to a client's current complaint of stress incontinence?

- A. The client's intake of 2 to 3 L of fluid per day.
- B. The client's history of three full-term pregnancies.
- C. The client's age of 45 years.
- D. The client's history of competitive swimming.

Correct Answer: B. The client's history of three full-term pregnancies

The history of three pregnancies is most likely the cause of the client's current episodes of stress incontinence. The client's fluid intake, age, or history of swimming would not create an increase in intra-abdominal pressure. Stress urinary incontinence affects 15.7% of adult women; 77.5% of women report the symptoms to be bothersome and 28.8% report the symptoms to be moderate to severe.

- **Option A:** Stress urinary incontinence (SUI) is the involuntary, sudden loss of urine secondary to increased intraabdominal pressure that is bothersome or affecting the patient's quality of life. Physical activities precipitating SUI include laughing, sneezing, straining, coughing, or exercising.

- **Option C:** Prevalence of stress urinary incontinence will increase with age particularly with menopause. One study found that 41% of women older than 40 years old will have urinary incontinence. Up to 77% of elderly females in nursing homes will have urinary incontinence. In one study, only 60% of women with incontinence sought treatment.
- **Option D:** A thorough history includes questions about precipitating events, fluid intake pattern, nocturia, type of protective devices used (tampons/pads/diapers), past medical/surgical history, and transient causes (UTIs, hypoestrogenism, cholinergic medications, diabetes, diuretics, psychological stress).

41. A 56-year-old patient with chronic obstructive pulmonary disease (COPD) is participating in a pulmonary rehabilitation program. The primary goal is to improve her exercise tolerance and overall lung function. On one of her visits, the respiratory therapist employs a spirometer to measure various aspects of the patient's lung volumes and capacities. While reviewing the measurements, the therapist mentions the volume of air that the patient breathes in and out during quiet breathing. The therapist then turns to a nursing student observing the session and says, "For most individuals without respiratory conditions, this specific volume, which represents the air inspired or expired with each breath under normal resting conditions, typically amounts to about 500 milliliters (mL). Can you tell me the term for this volume?"

- A. Tidal volume
- B. Inspiratory reserve volume
- C. Expiratory reserve volume
- D. Residual volume

Correct Answer: A. Tidal volume

Tidal volume (TV) is the amount of air that is inhaled or exhaled during a normal, unforced breath. It represents the volume of air that moves into or out of the lungs with each breath taken at rest or during regular breathing patterns. At rest, quiet breathing results in a tidal volume of about 500 milliliters (mL).

- **Option B:** Inspiratory reserve volume is the amount of air that can be inspired forcefully after inspiration of the resting tidal volume (about 3000 mL).
- **Option C:** Expiratory reserve volume is the amount of air that can be expired forcefully after expiration of the resting tidal volume (about 1100 mL).
- **Option D:** Residual volume is the volume of air still remaining in the respiratory passages and lungs after a maximum expiration (about 1200 mL).

42. A client who is complaining of tinnitus is describing a symptom that is:

- A. Objective
- B. Subjective
- C. Functional
- C. Functional

Correct Answer: B. Subjective.

A subjective symptom such as ringing in the ears can be felt only by the client. Subjective symptoms are those perceptible only to the patient. Examples of such sensory disturbances are pain, tenderness, fatigue, headache, nausea, vertigo, itching, tingling, and numbness. Pain and itching are pure subjective symptoms.

- **Option A:** Objective symptoms are those evident to the observer and called physical signs. Examples of such physical signs are temperature, pulse rate and rhythm, respiratory rate, and character, temperature, posture, edema, gait. Faint cardiac murmurs and pulmonary rales are pure objective signs.
- **Option C:** A functional symptom is a medical symptom with no known physical cause. In other words, there is no structural or pathologically defined disease to explain the symptom. The use of the term 'functional symptom' does not assume psychogenesis, only that the body is not functioning as expected.
- **Option D:** A prodrome can be the early precursor to an episode of a chronic neurological disorder such as a migraine headache or an epileptic seizure, where prodrome symptoms may include euphoria or other changes in mood, insomnia, abdominal sensations, disorientation, aphasia, or photosensitivity.

43. Timothy's arterial blood gas (ABG) results are as follows; pH 7.16; Paco2 80 mm Hg; Pao2 46 mm Hg; HCO3- 24 mEq/L; Sao2 81%. This ABG result represents which of the following conditions?

- A. Metabolic acidosis
- B. Metabolic alkalosis
- C. Respiratory acidosis
- D. Respiratory alkalosis

Correct Answer: C. Respiratory acidosis

Because Paco2 is high at 80 mm Hg and the metabolic measure, HCO3- is normal, the client has respiratory acidosis.

- **Option A:** If the HCO3- was below 22 mEq/L the client would have metabolic acidosis.
- **Option B:** The result of the ABG is less than 7.35, which makes metabolic alkalosis incorrect.
- **Option D:** The pH is less than 7.35, academic, which eliminates respiratory alkalosis as a possibility.

44. A nurse is handling a pregnant client who was prescribed to have an Alpha Fetoprotein level. The nurse should explain to the client that this blood test:

- A. Can indicate lung disorders and neural tube defects.
- B. Abnormal levels are associated with an increased risk for chromosome abnormality.
- C. Once the Alpha-Fetoprotein levels are abnormal, amniocentesis will be ordered.
- D. An Alpha-Fetoprotein is a definitive test for neural tube defects.

Correct Answer: C. Once the Alpha-Fetoprotein levels are abnormal, amniocentesis will be ordered.

If the Alpha-Fetoprotein levels are abnormal, the physician will prescribe amniocentesis to confirm or eliminate the diagnosis of a neural tube defect. 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 function as a screening test for congenital disabilities, chromosomal abnormalities, as well as some other adult occurring tumors and pathologies.

- **Option A:** Option A is incorrect since Alpha Fetoprotein does not indicate lung disorders. It is pertinent to explain that this is a screening test. Depending on the outcome, more tests may be ordered for the purpose of establishing a diagnosis. A negative test does not necessarily indicate no risk as very low maternal blood alpha-fetoprotein is associated with an increased incidence of Down syndrome.
- **Option B:** Option B is incorrect because an increase of human chorionic gonadotropin instead is associated with an increased risk for chromosome abnormality. This tumor marker is a glycoprotein encoded by the AFP gene on chromosome 4q25. Prenatal levels in developing human embryos rise from the end of the first trimester and begin to fall after 32 weeks of gestation. Maternal serum AFP forms part of the triple or quadruple screening tests for fetal anomaly.
- **Option D:** Option D is incorrect because an Alpha Fetoprotein level is a screening test and is not a definitive test. This tumor marker is a glycoprotein encoded by the AFP gene on chromosome 4q25. Prenatal levels in developing human embryos rise from the end of the first trimester and begin to fall after 32 weeks of gestation. Maternal serum AFP forms part of the triple or quadruple screening tests for fetal anomaly.

45. A 52-year-old male patient, who is overweight and has a history of mild hypertension, presents to the healthcare facility with symptoms of severe flank pain and hematuria. The patient has been diagnosed with ureteral colic. The nurse is focusing on the immediate management of the patient's condition. What should be the immediate objective of nursing care for this patient?

- A. Decrease pain.
- B. Decrease weight.
- C. Decrease hematuria.
- D. Decrease hypertension.
- E. Increase fluid intake.
- F. Initiate dietary modifications.
- G. Administer antibiotics.

Correct Answer: A. Decrease pain.

Sharp, severe pain (renal colic) radiating toward the genitalia and thigh is caused by urethral distention and smooth muscle spasm; relief from pain is the priority.

46. Orly Khan is suffering from fluid volume deficit (FVD), which of the following symptoms would the nurse expect to assess in the patient?

- A. Rales
- B. Bounding pulse
- C. Tachycardia
- D. Bulging neck veins

Correct Answer: C. Tachycardia

Tachycardia, poor tissue turgor, and hypotension are symptoms of FVD. Other choices are symptoms of FVE. A decrease in circulating blood volume can cause hypotension and tachycardia. Alteration in HR is a compensatory mechanism to maintain cardiac output.

- **Option A:** Auscultate and document heart sounds; note rate, rhythm or other abnormal findings. 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 B:** Usually, the pulse is weak and may be irregular if electrolyte imbalance also occurs. Hypotension is evident in hypovolemia. Close monitoring for responses during therapy reduces complications associated with fluid replacement.
- **Option D:** Assess skin turgor and oral mucous membranes for signs of dehydration. Signs of dehydration are also detected through the skin. Skin of elderly patients loses elasticity, hence skin turgor should be assessed over the sternum or on the inner thighs. Longitudinal furrows may be noted along the tongue.

47. Which nursing intervention would be a priority during the care of a 2-month-old after surgery?

- A. Minimize stimuli for the infant.
- B. Restrain all extremities.
- C. Encourage stroking of the infant.
- D. Demonstrate to the mother how she can assist with her infant's care.

Correct Answer: C. Encourage stroking of the infant.

Tactile stimulation is imperative for an infant's normal emotional development. After the trauma of surgery, sensory deprivation can cause failure to thrive. Most babies with FTT do not have a specific underlying disease or medical condition to account for their growth failure. This is referred to as Non-organic FTT. Up to 80% of all children with FTT have Non-organic type FTT. Non-organic FTT most commonly occurs when there is inadequate food intake or there is a lack of environmental stimuli.

- **Option A:** Provide sensory stimulation. Attempt to cuddle the child and talk to him or her in a warm, soothing tone and allow for play activities appropriate for the child's age. Feed the child slowly and carefully in a quiet environment; during feeding, the child might be closely snuggled and gently rocked; it may be necessary to feed the child every 2 to 3 hours initially.
- **Option B:** Do not restrain the child. Burp the child frequently during and at the end of each feeding, and then place him or her on the side with the head slightly elevated or held in a chest-to-chest position.
- **Option D:** If a family caregiver is present, encourage him or her to become involved in the child's feedings. While caring for the child, point out to the caregiver the child's development and responsiveness, noting and praising any positive parenting behaviors the caregiver displays.

48. Viagra (sildenafil) is given to a patient with erectile dysfunction. Which of the following history is contraindicated with the medication?

- A. Blurred vision
- B. Neuralgia
- C. Use of vitamins
- D. Use of nitrates

Correct Answer: D. Use of nitrates

Viagra (sildenafil) is contraindicated in patients taking nitrates, nitroprusside, and beta-blockers. Viagra, when taken with nitrates can cause a significant drop in blood pressure.

- **Options A & B:** Blurred vision and neuralgia are the side effects of this medication.
- **Option C:** The use of vitamins is not contraindicated with the use of sildenafil.

49. Referencing the image below, what is the name of the structure marked #6.

- A. Minor calyx
- B. Major calyx
- C. Lieutenant calyx
- D. Renal column
- E. Renal papilla
- F. Renal cortex
- G. Renal nerve
- H. Renal artery
- I. Renal pelvis
- J. Renal pyramid

Correct answer: #6 is Option H. Renal artery

The renal artery, one for each kidney, is a major vessel that transports oxygenated blood from the abdominal aorta, specifically just below the superior mesenteric artery, to the kidneys. Entering the kidneys at the hilum, the indented region on their medial side, these arteries further branch into segmental, interlobar, arcuate, and interlobular arteries. The smallest of these, the interlobular arteries, directly nourish the nephrons, the kidneys' functional units responsible for filtering blood and producing urine.

50. A nurse is caring for a client in the second stage of labor. The client is experiencing uterine contractions every 2 minutes and cries out in pain with each contraction. The nurse recognizes this behavior as:

- A. Exhaustion
- B. Valsalva's maneuver
- C. Involuntary grunting
- D. Fear of losing control

Correct Answer: D. Fear of losing control

Pains, helplessness, panicking, and fear of losing control are possible behaviors in the 2nd stage of labor. In women who have delivered vaginally previously, whose bodies have acclimated to delivering a fetus, the second stage may only require a brief trial, whereas a longer duration may be required for a nulliparous female.

- **Option A:** Labour as a life event is characterized by tremendous physiological and psychological changes that require major behavioral adjustments in a short period of time.
- **Option B:** Exercise involving the Valsalva maneuver (holding one's breath during exertion) because it can cause increased intra-abdominal pressure.
- **Option C:** Labour presents a physical and psychological challenge for women. The latter stages of pregnancy can be a difficult time emotionally. Fear and apprehension are experienced alongside excitement. There are emotions both positive and negative that will affect the woman's birth experience.

51. A client was brought to the ED due to an abdominal trauma caused by a motorcycle accident. During the assessment, the client complains of epigastric pain and back pain. Which of the following is true regarding the diagnosis of pancreatic injury?

- A. Redness and bruising may indicate the site of the injury in blunt trauma
- B. The client is symptom-free during the early post-injury period
- C. Signs of peritoneal irritation may indicate pancreatic injury
- D. All of the above

Correct Answer: D. All of the above

Blunt injury resulting from vehicular accidents could cause pancreatic injury. Redness, bruising in the flank and severe peritoneal irritation are signs of a pancreatic injury. The client is usually pain-free during the early post-injury period, hence a comprehensive assessment and monitoring should be done.

- **Option A:** Pancreatic injury is hidden in the shadows of coexisting intraabdominal injuries and its inherent retroperitoneal location. Symptoms of radiating epigastric pain to the back, nausea, and vomiting are also seen with the more commonly injured adjacent viscera. An abdominal exam is reported to have a false negative rate of 34% on initial evaluation.
- **Option B:** Traumatic pancreatitis can be a difficult diagnosis to make and requires meticulous investigation. Damage to the pancreas is not very common and is seldom a solitary insult. As the signs and symptoms are nonspecific, a high index of suspicion is necessary to prevent delayed diagnosis.
- **Option C:** Other complications include pancreatic pseudocyst which is a circumscribed collection of enzymes, blood, and necrotic tissue. Less frequent complications include peritonitis, intestinal

obstruction, and gastrointestinal bleeding. Pancreatic trauma can disrupt the endocrine function for patients as well.

52. All of the following are good sources of vitamin A except:

- A. White potatoes
- B. Carrots
- C. Apricots
- D. Egg yolks

Correct Answer: A. White potatoes

Potatoes contain a good amount of carbs and fiber, as well as vitamin C, vitamin B6, potassium and manganese. Their nutrient contents can vary depending on the type of potato and cooking method. The main sources of vitamin A are yellow and green vegetables (such as carrots, sweet potatoes, squash, spinach, collard greens, broccoli, and cabbage) and yellow fruits (such as apricots, and cantaloupe). Animal sources include liver, kidneys, cream, butter, and egg yolks.

- **Option B:** They're rich in beta-carotene, a compound the body changes into vitamin A, which helps keep the eyes healthy. And beta-carotene helps protect the eyes from the sun and lowers the chances of cataracts and other eye problems. Yellow carrots have lutein, which is also good for the eyes.
- **Option C:** Apricots are a great source of many antioxidants, including beta carotene and vitamins A, C, and E. What's more, they're high in a group of polyphenol antioxidants called flavonoids, which have been shown to protect against illnesses, including diabetes and heart disease.
- **Option D:** Egg yolks contain vitamins A, D, E, and K along with omega-3 fats. Compared to the whites, egg yolks are also rich in folate and vitamin B12. The yolks are also packed with tryptophan and tyrosine, and amino acids that help prevent heart diseases.

53. 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.

54. Tetracycline has been prescribed for a client with *Chlamydia trachomatis* infection. Select the side effect of the medication. Select all that apply.

- A. Glossitis
- B. Tremors
- C. Urinary frequency
- D. Discoloration of the nails
- E. Photosensitivity

Correct Answer: A, D, & E

Side effects of tetracycline include glossitis, discoloration of the nails, photosensitivity, anorexia, nausea, vomiting, diarrhea, bulky loose stools, stomatitis, sore throat, black hairy tongue, dysphagia, and hoarseness.

55. Auscultation of a client's lungs reveals crackles in the left posterior base. The nursing intervention is to:

- A. Repeat auscultation after asking the client to deep breathe and cough.
- B. Instruct the client to limit fluid intake to less than 2000 ml/day.
- C. Inspect the client's ankles and sacrum for the presence of edema.
- D. Place the client on bedrest in a semi-Fowler's position.

Correct Answer: A. Repeat auscultation after asking the client to deep breathe and cough.

Although crackles often indicate fluid in the alveoli, they may also be related to hypoventilation and will clear after a deep breath or a cough. Assess cough effectiveness and productivity. Coughing is the most effective way to remove secretions. Pneumonia may cause thick and tenacious secretions to patients.

- **Option B:** It is premature to impose fluid or activity restrictions. Assess the rate, rhythm, and depth of respiration, chest movement, and use of accessory muscles. Tachypnea, shallow respirations and asymmetric chest movement are frequently present because of the discomfort of moving chest wall and/or fluid in the lung due to a compensatory response to airway obstruction. Altered breathing patterns may occur together with use of accessory muscles to increase chest excursion to facilitate effective breathing.
- **Option C:** Inspection for edema would be appropriate after re-auscultation. Auscultate lung fields, noting areas of decreased or absent airflow and adventitious breath sounds: crackles, wheezes. Decreased airflow occurs in areas with consolidated fluid. Bronchial breath sounds can also occur in these consolidated areas. Crackles, rhonchi, and wheezes are heard on inspiration and/or expiration in response to fluid accumulation, thick secretions, and airway spasms and obstruction.
- **Option D:** Elevate the head of bed, change position frequently. Doing so would lower the diaphragm and promote chest expansion, aeration of lung segments, mobilization, and expectoration of secretions.

56. A 28-year-old woman, in her second pregnancy, visits the prenatal clinic. During her first pregnancy, she did not receive any postnatal Rhogam shots.

Her medical records indicate that she is RH negative. The father of the child, however, is RH positive. Given the potential risks associated with Rh incompatibility and the importance of preventive care, under which circumstances would Rhogam most likely be administered to the mother to prevent hemolytic disease in the infant?

- A. When the mother is RH positive and the infant is RH positive.
- B. When the mother is RH positive and the infant is RH negative.
- C. When the mother is RH negative and the infant is RH positive.
- D. When the mother is RH negative and the infant is RH negative.
- E. When both the mother and the infant have an unknown RH status.
- F. When the mother has previously received Rhogam in a prior pregnancy.

Correct Answer: C. When the mother is RH negative and the infant is RH positive.

Rhogam (Rho(D) immune globulin) is given to RH negative mothers to prevent the development of antibodies against RH positive blood. This is crucial when an RH negative mother has an RH positive infant, as the mother's body may see the baby's RH positive red blood cells as foreign and develop antibodies against them, leading to hemolytic disease in the infant. Rhogam is administered to prevent this immune response.

57. A client being treated with sodium warfarin has a Protime of 120 seconds. Which intervention would be most important to include in the nursing care plan?

- A. Assess for signs of abnormal bleeding
- B. Anticipate an increase in the Coumadin dosage
- C. Instruct the client regarding the drug therapy
- D. Increase the frequency of neurological assessments

Correct Answer: A. Assess for signs of abnormal bleeding

The normal Protime is 12–20 seconds. A Protime of 120 seconds indicates an extremely prolonged Protime and can result in a spontaneous bleeding episode. Patients receiving treatment with warfarin should have close monitoring to ensure the safety and efficacy of the medication. Periodic blood testing is the recommendation to assess the patient's prothrombin time (PT) and the international normalized ratio (INR).

- **Option B:** The laboratory parameter utilized to monitor warfarin therapy is the PT/INR. The PT is the number of seconds it takes the blood to clot, and the INR allows for the standardization of the PT measurement depending on the thromboplastin reagent used by a laboratory. Therefore, monitoring a patient's INR while on warfarin is strongly preferable over PT because it allows for a standardized measurement without variations due to different laboratory sites.
- **Option C:** When managing warfarin toxicity, the initial step would be to discontinue warfarin and then administer vitamin K (phytonadione). The vitamin K may administration can be either via the oral, intravenous, or subcutaneous route. However, the initial administration of oral vitamin K is often preferable in patients without major bleeding or extremely elevated INR.

- **Option D:** Patients also require close monitoring for signs and symptoms of active bleeding throughout their treatment. Close monitoring for signs and symptoms of bleeding, such as dark tarry stools, nosebleeds, and hematomas, is necessary. The patient's hemoglobin and hematocrit level should undergo an assessment before initiating warfarin and approximately every six months while on therapy.

58. A client is admitted with a diagnosis of schizotypal personality disorder. Which signs would this client exhibit during social situations?

- A. Aggressive behavior
- B. Paranoid thoughts
- C. Emotional affect
- D. Independence needs

Correct Answer: B. Paranoid thoughts

Clients with schizotypal personality disorder experience excessive social anxiety that can lead to paranoid thoughts. Isolation is a salient feature in the history of a schizoid patient. Rarely do they have close relationships, and often they will choose to participate in occupations that are solitary in nature. They infrequently experience strong emotion, express little to no desire for sexual activity with a partner, and tend to be ambivalent to criticism or praise.

- **Option A:** Aggressive behavior is uncommon, although these clients may experience agitation with anxiety. Schizotypal can be differentiated with its more pronounced "magical" and eccentric thought processes. Paranoid, avoidant, and obsessive-compulsive personality disorders are also often on the clinician's list of differential diagnoses. Unlike the aloofness observed in schizoid, however, patients with paranoid personality disorder are often overly resentful and can demonstrate explosive anger.
- **Option C:** Their behavior is emotionally cold with a flattened affect, regardless of the situation. Individuals afflicted with personality disorders tend to externalize their problems, viewing others as the etiology of any conflict. If, by chance, a person with schizoid personality disorder presents in the clinical setting, DSM V has outlined specific diagnostic criteria for the clinician to use for evaluation. A pronounced blunted affect will immediately be observable on presentation. The patient will be disengaged, aloof, and will most likely diminish symptomatology.
- **Option D:** These clients demonstrate a reduced capacity for close or dependent relationships. It is unlikely that a person with a schizoid personality disorder will present in the clinical setting of his own volition unless prompted by family, or as a result of a co-occurring disorder, such as depression. As with most personality disorders, the behavior is in synchrony with the ego, and thus the patient does not acknowledge the need to adapt his or her behavior.

59. A nurse in a medical unit is caring for a client with heart failure. The client suddenly develops extreme dyspnea, tachycardia, and lung crackles, and the nurse suspects pulmonary edema. The nurse immediately notifies the registered nurse and expects which interventions to be prescribed? Select all that apply.

- A. Administering oxygen
- B. Inserting a Foley catheter

- C. Administering furosemide (Lasix)
- D. Administering morphine sulfate intravenously
- E. Transporting the client to the coronary care unit
- F. Placing the client in a low Fowler's side-lying position

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

A pulmonary edema is a life-threatening event that can result from severe heart failure. In pulmonary edema, the left ventricle fails to eject sufficient blood, and pressure increases in the lungs because of the accumulated blood.

- **Option A:** Oxygen is always prescribed. Supplemental oxygen increases oxygen availability to the myocardium and can help relieve symptoms of hypoxemia, ischemia, and subsequent activity intolerance (Giordano, 2005; Haque et al., 1996). The need is based on the degree of pulmonary congestion and resulting hypoxia.
- **Option B:** A Foley catheter is inserted to accurately measure output. Urine output may be scanty and concentrated (especially during the day) because of reduced renal perfusion. Recumbency favors diuresis; therefore, urine output may be increased at night and/or during bed rest.
- **Option C:** Furosemide, a rapid-acting diuretic, will eliminate accumulated fluid. Evaluate urine output in response to diuretic therapy. The focus is on monitoring the response to the diuretics rather than the actual amount voided.
- **Option D:** Intravenously administered morphine sulfate reduces venous return (preload), decreases anxiety, and reduces the work of breathing. The use of morphine should be reserved for patients with myocardial ischemia who are refractory to drugs that favorably alter myocardial oxygen supply and demand.
- **Option E:** Transporting the client to the coronary care unit is not a priority intervention. In fact, this may not be necessary at all if the client's response to treatment is successful.
- **Option F:** The client is placed in a high Fowler's position to ease the work of breathing. Allows for better chest expansion, thereby improving pulmonary capacity. In this position, the venous return to the heart is reduced, pulmonary congestion is alleviated, and pressure on the diaphragm is minimized.

60. A client is admitted to the hospital with acute bronchitis. While taking the client's VS, the nurse notices he has an irregular pulse. The nurse understands that cardiac arrhythmias in chronic respiratory distress are usually the result of:

- A. Respiratory acidosis
- B. A build-up of carbon dioxide
- C. A build-up of oxygen without adequate expelling of carbon dioxide.
- D. An acute respiratory infection.

Correct Answer: B. A build-up of carbon dioxide.

The arrhythmias are caused by a build-up of carbon dioxide and not enough oxygen so that the heart is in a constant state of hypoxia. The majority of arrhythmias observed in these patients appeared to take the form of premature ventricular and/or supraventricular beats and less frequently of atrial fibrillation and/or attacks of supraventricular paroxysmal tachycardia. Cardiac rhythm alterations were observed using Holter monitoring in 70-90% of patients. No cardiac rhythm disorder is specific to this pathological

condition.

- **Option A:** The compensation to respiratory acidosis consists in a secondary increase in bicarbonate concentration, and the arterial blood gas analysis is characterized by a reduced pH, increased pCO₂ (initial variation), and increased bicarbonate levels (compensatory response).
- **Option C:** Acute bronchitis is a clinical diagnosis based on history, past medical history, lung exam, and other physical findings. Oxygen saturation plays an important role in judging the severity of the disease along with the pulse rate, temperature, and respiratory rate.
- **Option D:** Acute bronchitis is the result of acute inflammation of the bronchi secondary to various triggers, most commonly viral infection, allergens, pollutants, etc. Inflammation of the bronchial wall leads to mucosal thickening, epithelial-cell desquamation, and denudation of the basement membrane. At times, a viral upper respiratory infection can progress to infection of the lower respiratory tract resulting in acute bronchitis.

61. Which of the following statements is not true about performance appraisal?

- A. Informing the staff about the specific impressions of their work help improve their performance.
- B. A verbal appraisal is an acceptable substitute for a written report.
- C. Patients are the best source of information regarding personnel appraisal.
- D. The outcome of performance appraisal rests primarily with the staff.

Correct Answer: C. Patients are the best source of information regarding personnel appraisal.

The patient can be a source of information about the performance of the staff but it is never the best source. Directly observing the staff is the best source of information for personnel appraisal. The supervisor analyses the factors behind the work performances of employees. Through performance appraisal, the employers can understand and accept the skills of subordinates.

- **Option A:** Performance appraisal serves as a motivation tool. Through evaluating the performance of employees, a person's efficiency can be determined if the targets are achieved. This very well motivates a person for a better job and helps him to improve his performance in the future.
- **Option B:** Performance appraisals enable superiors to know what their team members are up to, evaluate their performances and also give them correct feedbacks so that they know where they are lacking and work on their shortcomings.
- **Option D:** Performance Appraisal helps the supervisors to chalk out the promotion programs for efficient employees. In this regard, inefficient workers can be dismissed or demoted in case.

62. Antonietta is taking antitubercular, the most common adverse effect she may be experiencing is:

- A. Red-orange discoloration of urine
- B. Hypersensitivity
- C. Hepatotoxicity
- D. CHF

Correct Answer: C. Hepatotoxicity

Hepatotoxicity is the most common side effect associated with antitubercular agents. All first-line antitubercular medications, rifampin, isoniazid, pyrazinamide, and ethambutol can exert hepatotoxic effects. A continual rise in liver functions test should prompt discontinuation of treatment. Liver function tests should be monitored routinely as rifampin, isoniazid, pyrazinamide, and ethambutol all may exert hepatotoxic effects.

- **Option A:** Orange discoloration is a side effect of rifampin but not with antitubercular in general. Distribution of the drug is high throughout the body, and reaches effective concentrations in many organs and body fluids, including the cerebrospinal fluid. Since the substance itself is red, this high distribution is the reason for the orange-red color of the saliva, tears, sweat, urine, and feces.
- **Option B:** Adverse drug reaction to tuberculous chemotherapy is not an uncommon problem. Usually, it occurs with single drugs and can be treated easily with minimal intervention. Immediate-type allergic reactions from antituberculosis drugs are not rare and not related to disease or treatment characteristics.
- **Option D:** Aminoglycoside induced nephrotoxicity is reversible when stopping the medication. Renal toxicity depends on the patient if any underlying renal disease is present, and on the dose of the medication being administered. Renal insufficiency is avoidable in most patients.

63. When reviewing the urinalysis report of a client with newly diagnosed diabetes mellitus, the nurse would expect which urine characteristics to be abnormal? Select all that apply.

- A. Amount.
- B. Odor.
- C. pH.
- D. Specific gravity.
- E. Glucose level.
- F. Ketone bodies.

Correct Answer: A, B, E, & F.

Diabetes mellitus is associated with increased amounts of urine, a sweet or fruity odor, and glucose and ketone bodies in the urine. It does not affect the urine's pH or specific gravity.

- **Option A:** Excessive thirst and increased urination are common diabetes signs and symptoms. When the client has diabetes, excess glucose — a type of sugar — builds up in the blood. The kidneys are forced to work overtime to filter and absorb the excess glucose.
- **Option B:** Strong sweet-smelling urine is a sign of advanced diabetes, which can be diagnosed with urinalysis. With advanced diabetes, sugar and ketones, which are normally absent, can accumulate in the urine and create a strong odor.
- **Option C:** A diet that includes too many acid-producing foods, such as protein or sugar, can cause acidity in the urine as well as other negative health effects. This may cause a type of kidney stone called uric acid stones to form.
- **Option D:** In uncontrolled diabetic patients, the urine specific gravity might reach 1.045 to 1.050 as a result of the loss of glucose in the urine. Specifically, in a patient with poor glycemic control elevated blood glucose levels should result in an increased urine specific gravity.

- **Option E:** In diabetic patients, the kidneys are more susceptible to the effects of hyperglycemia; many of the kidney cells are unable to decrease glucose transport rates and unable to prevent intracellular hyperglycemia in an increased glucose concentration state.
- **Option F:** If cells don't get enough glucose, the body burns fat for energy instead. This produces a substance called ketones, which can show up in the blood and urine. High ketone levels in urine may indicate diabetic ketoacidosis (DKA), a complication of diabetes that can lead to a coma or even death.

64. Which of the following definitions best describes diverticulosis?

- A. An inflamed outpouching of the intestine.
- B. A noninflamed outpouching of the intestine.
- C. The partial impairment of the forward flow of intestinal contents.
- D. An abnormal protrusion of an organ through the structure that usually holds it.

Correct Answer: B. A noninflamed outpouching of the intestine.

Diverticulosis involves a noninflamed outpouching of the intestine. Diverticulosis is a clinical condition in which multiple sac-like protrusions (diverticula) develop along the gastrointestinal tract. Though diverticula may form at weak points in the walls of either the small or large intestines, the majority occur in the large intestine (most commonly the sigmoid colon).

- **Option B:** Diverticulitis involves an inflamed outpouching. 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 C:** The partial impairment of forward flow of the intestine is an obstruction. Obstruction causes dilation of the bowel proximal to the transition point and collapses distally. A result of partial or complete blockage of digested products during obstruction is emesis. Frequent emesis can lead to fluid deficits and electrolyte abnormalities.
- **Option D:** Abnormal protrusion of an organ is a hernia. A hernia occurs when an organ pushes through an opening in the muscle or tissue that holds it in place. For example, the intestines may break through a weakened area in the abdominal wall. Many hernias occur in the abdomen between the chest and hips, but they can also appear in the upper thigh and groin areas.

65. The nurse is caring for an agitated older client with Alzheimer's disease. Which nursing intervention would most likely calm the client?

- A. Playing a radio
- B. Turning the lights out
- C. Putting an arm around the client's waist
- D. Encouraging group participation

Correct Answer: C. Putting an arm around the client's waist.

Nursing interventions for the client with Alzheimer's disease who is angry, frustrated, or hostile include decreasing environmental stimuli, approaching the client calmly and with assurance, not demanding anything from the client, and distracting the client. For the nurse to reach out, touch, hold a hand, put an

arm around the waist, or in some way maintain physical contact is important.

- **Option A:** Playing a radio may increase stimuli. Noise and crowds are usually excessive for the sensory neurons and can increase interference. Television and radio programs may be overstimulating and may increase agitation.
- **Option B:** Turning the lights out may produce more agitation. Limit sensory stimuli and independent decision-making. This decreases frustration and distractions from the environment. Decreasing the stress of making a choice helps to promote security.
- **Option D:** The client with Alzheimer's disease would not be a candidate for group work if the client is agitated. Provide an opportunity for social interaction, but do not force interaction. Forcing interaction usually results in confusion, agitation, and hostility.

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

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

Correct Answer: A, B, E, F

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

- **Option A:** Cardiac complications are arguably one of the most severe medical issues stemming from anorexia. Bradycardia (heart rate less than 60 beats per minute) and hypotension (blood pressure less than 90/50) are among the most common physical findings in anorexia, with bradycardia seen in up to 95 percent of patients.
- **Option B:** Bradycardia (pulse <60) and hypotension are among the most common physical findings in patients with anorexia nervosa, with bradycardia seen in up to 95% of patients. Anorexia nervosa should be considered in the differential for unexplained bradycardia in the outpatient setting. Low blood pressure and heart rate universally increase to normal levels after refeeding and restoration of normal weight.
- **Option C:** Chronic pain in one or more sites is common for somatoform pain disorder. The Diagnostic and Statistical Manual for Mental Disorders, Fifth Edition (DSM-5) category of Somatic Symptom Disorders and Other Related Disorders represents a group of disorders characterized by thoughts, feelings, or behaviors related to somatic symptoms. This category represents psychiatric conditions because the somatic symptoms are excessive for any medical disorder that may be present.
- **Option D:** Fear of having a serious illness is common in hypochondriasis. Illness anxiety disorder (IAD) is a recent term for what used to be diagnosed as hypochondriasis, or hypochondria. People diagnosed with IAD strongly believe they have a serious or life-threatening illness despite having

no, or only mild, symptoms. Yet IAD patients' concerns are to them very real. Even if they go to doctors and no illnesses are found, they are generally not reassured and their obsessive worry continues.

- **Option E:** Of patients with anorexia nervosa, 20–25 percent may experience amenorrhea before the onset of significant weight loss, and 50–75 percent will experience amenorrhea during the course of dieting and its weight loss. In some patients with anorexia nervosa, amenorrhea occurs only after more marked weight loss. Overall, the development of amenorrhea is most strongly correlated to loss of body weight.
- **Option F:** Many exercise compulsively for extended periods of time. Patients with anorexia nervosa develop multiple complications related to prolonged starvation and purging behaviors.

67. A 30-year-old mother, Mrs. Clarke, presents to the pediatric clinic with her 7-month-old son, Jeremiah. Jeremiah has been following the recommended vaccination schedule and is currently up to date. Mrs. Clarke expresses concerns about the risk of chickenpox, having experienced a severe case during her childhood. She recalls painful rashes and a prolonged recovery period. Eager to prevent her son from undergoing the same ordeal, Mrs. Clarke inquires about the optimal time for Jeremiah to receive the varicella zoster vaccine. The nurse is asked to recommend the most appropriate age from the given choices. Which of the following ages would be most suitable for the nurse to advise Mrs. Clarke to have Jeremiah receive the varicella zoster vaccine?

- A. At birth
- B. 2 months
- C. 6 months
- D. 12 months
- E. 15 months
- F. 18 months

Correct Answer: D. 12 months

The first dose of the varicella zoster vaccine is typically administered at 12 months of age, followed by a second dose at 4-6 years of age. Consequently, based on the recommended vaccination schedule, the nurse should advise Mrs. Clarke that Jeremiah should receive the varicella zoster vaccine at 12 months of age.

- **Option A:** The varicella zoster vaccine is not administered at birth. Newborns may have passive immunity from their mothers if the mothers are immune to chickenpox.
- **Option B:** The varicella zoster vaccine is not given at 2 months. Infants at this age receive other vaccines such as the DTaP and Hib, but not the chickenpox vaccine.
- **Option C:** While Jeremiah is currently 7 months old, the vaccine is not recommended at this age. The immune response might not be as robust as when given later.
- **Option E:** While other vaccines are given around this age (like the MMR vaccine), the varicella vaccine's primary dose is recommended at 12 months.
- **Option F:** The primary dose should have been administered by this time. Waiting this long would only extend the child's vulnerability to the disease.

68. For a client with Graves' disease, which nursing intervention promotes comfort?

- A. Restricting intake of oral fluids.
- B. Placing extra blankets on the client's bed.
- C. Limiting intake of high-carbohydrate foods.
- D. Maintaining room temperature in the low-normal range.

Correct Answer: D. Maintaining room temperature in the low-normal range.

Graves' disease causes signs and symptoms of hypermetabolism, such as heat intolerance, diaphoresis, excessive thirst and appetite, and weight loss. To reduce heat intolerance and diaphoresis, the nurse should keep the client's room temperature in the low-normal range.

- **Option A:** To replace fluids lost via diaphoresis, the nurse should encourage, not restrict, intake of oral fluids.
- **Option B:** Placing extra blankets on the bed of a client with heat intolerance would cause discomfort.
- **Option C:** To provide needed energy and calories, the nurse should encourage the client to eat high-carbohydrate foods.

69. A male client tells the nurse he was involved in a car accident while he was intoxicated. What would be the most therapeutic response from nurse Julia?

- A. "Why didn't you get someone else to drive you?"
- B. "Tell me how you feel about the accident."
- C. "You should know better than to drink and drive."
- D. "I recommend that you attend an Alcoholics Anonymous meeting."

Correct Answer: B. "Tell me how you feel about the accident."

An open-ended statement or question is the most therapeutic response. It encourages the widest range of client responses, makes the client an active participant in the conversation, and shows the client that the nurse is interested in his feelings. mix open-ended questions with focus questions. Open-ended questions may allow the patient to express their thoughts and feelings, and focused questions allow the interviewer to obtain important details with yes or no answers in a more time-efficient manner.

- **Option A:** Asking the client why he drove while intoxicated can make him feel defensive and intimidated. The first question posed in the interview is often open-ended. For example, "What is the main reason you seek medical assistance today?" This provides an opportunity for the interviewer to allow the patient to share their concerns, and the interviewer can show he or she is actively listening. This includes listening without judgment and displaying concern for the patient during communication.
- **Option C:** A judgmental approach isn't therapeutic. During the interview, meaningful questions inquired positively will reduce defensiveness from the patient. Often this can be accomplished by suggesting or sharing a common behavior associated with the actions of the patient. For example, the interviewer may convey the commonality for people to consume alcohol when under stress. It then becomes acceptable to inquire if this is also occurring with the patient. The patient may feel a sense of trust and therefore share pertinent information.

- **Option D:** By giving advice, the nurse suggests that the client isn't capable of making decisions, thus fostering dependency. At the conclusion of the patient interview, an appropriate transition statement to begin the physical exam may be, "Is there anything else that you would like to share with me before I start the physical examination?" This statement serves 2 purposes. First, it elicits any additional information the patient deems necessary, and second, it signals a transition to the physical exam. Lastly, before concluding the interview, it is important to discuss the probable follow-up plan and further treatment. In the outpatient setting, this may include admission to the hospital or going home and returning for a follow-up appointment at a designated time.

70. A client has just been diagnosed with terminal cancer and is being transferred to home hospice care. The client's daughter tells the nurse, "I don't know what to say to my mother if she asks me if she's going to die." Which responses by the nurse would be appropriate? Select all that apply.

- A. "Tell your mother not to worry. She still has some time left."
- B. "Let's talk about your mother's illness and how it will progress."
- C. "You sound like you have some questions about your mother dying. Let's talk about that."
- D. "Don't worry, hospice will take care of your mother."
- E. "Tell me how you're feeling about your mother dying."

Correct Answer: B, C, & E.

Talking about death is an uncomfortable situation. Conveying information clearly and openly can alleviate fears and strengthen the individual's sense of control. Encouraging verbalization of feelings helps build a therapeutic relationship based on trust and reduces anxiety. Advising the daughter not to worry, or having her tell her mother that, ignores her feelings and discourages further communication.

- **Option A:** The nurse needs to recognize and understand these events as a time during which an individual or family member incorporates his or her strength to go on to the next stage of grief.
- **Option B:** Support the client and significant others share mutual fears, concerns, plans, and hopes for each other. Keeping secrets won't do any help during this time. These times of stress can be used as an opportunity for growth and family development.
- **Option C:** Communicate therapeutically with the client and family members and allow them to verbalize feelings. Sharing feelings with a healthcare provider may help the client and significant others find significance in the experience of loss.
- **Option D:** Acknowledge the client's and significant other's need to review the loss experience. In this way, the client and family members integrate the event into their experience.
- **Option E:** Review and point out strengths and progress to date. Reviewing the client's progress is very helpful and provides perspective in the whole process.

71. The nurse is measuring the duration of the client's contractions. Which statement is true regarding the measurement of the duration of contractions?

- A. Duration is measured by timing from the beginning of one contraction to the beginning of the next contraction.

- B. Duration is measured by timing from the end of one contraction to the beginning of the next contraction.
- C. Duration is measured by timing from the beginning of one contraction to the end of the same contraction.
- D. Duration is measured by timing from the peak of one contraction to the end of the same contraction.

Correct Answer: C. Duration is measured by timing from the beginning of one contraction to the end of the same contraction.

Duration is measured from the beginning of one contraction to the end of the same contraction. Duration is timed from when you first feel a contraction until it is over. This time is usually measured in seconds.

- **Option A:** This refers to frequency. Frequency is timed from the start of one contraction to the start of the next. It includes the contraction as well as the rest period until the next contraction begins.
Option B: We do not measure from the end of one contraction to the beginning of the next contraction. Contractions are considered regular when the duration and frequency are stable over a period of time. An example is contractions lasting 60 seconds and coming five minutes apart for an hour.
- **Option D:** Duration is not measured from the peak of the contraction to the end, as stated in D. Contractions that are lasting longer and getting closer together are considered to be progressing. Over the course of labor, contractions get longer, stronger, and closer together.

72. Which assessment finding assists the nurse in confirming inhalation injury?

- A. Brassy cough
- B. Decreased blood pressure
- C. Nausea
- D. Headache

Correct Answer: A. Brassy cough

Brassy cough and wheezing are some signs seen with inhalation injury. Damage to airway tissue causes increased mucus production, edema, denudation of epithelium, and mucosal ulceration and hemorrhage. Obstruction of airflow is often the effect caused by tissue edema narrowing the passageways and mucus/blood/fluid impeding airflow.

- **Option B:** Patients with carbon monoxide poisoning may exhibit hypotension. As carboxyhemoglobin (COHgb) levels rise, the cerebral blood vessels dilate, and both coronary blood flow and capillary density increase. Cardiac effects, especially ventricular arrhythmias occur. Ventricular arrhythmias are implicated as the cause of death most often in CO poisoning.
- **Option C:** Most commonly, patients with carbon monoxide poisoning will present with headache (more than 90%), dizziness, weakness, and nausea. Patients may be tachycardic and tachypneic.
- **Option D:** Patients may have systemic symptoms like a headache, delirium, hallucinations, and may even be comatose. Many different etiologies may cause changes in mental status including hypoxia, hypercarbia, or asphyxiant exposure (carbon monoxide, hydrogen cyanide). But headaches can also be seen with carbon monoxide poisoning.

73. Rehabilitation is the final phase of burn care. Which of the following are the goals during this phase? Select all that apply.

- A. Provide emotional support.
- B. Prevent hypovolemic shock.
- C. Promote wound healing and proper nutrition.
- D. Fluid replacement.
- E. Help the client in gaining optimal physical functioning.

Correct Answer: A, C, and E.

The rehabilitation phase starts after wound closure and ends upon discharge and beyond. The goals of this phase include minimizing functional loss, promoting psychosocial support, promoting wound healing, and proper nutrition.

- **Option A:** Patients may try to refuse treatment as they are in pain and may not fully understand the impact of not participating in their rehabilitation; they, therefore, need the support and encouragement of the burn care professionals to help them through this difficult experience with the knowledge of how different their quality of life can be.
- **Option B:** Inflammatory and vasoactive mediators such as histamines, prostaglandins, and cytokines are released causing a systemic capillary leak, intravascular fluid loss, and large fluid shifts. These responses occur mostly over the first 24 hours peaking at around six to eight hours after injury. This can be managed with aggressive fluid resuscitation and close monitoring for adequate, but not excessive, IV fluids.
- **Option C:** Continuous monitoring and reassessment of nutritional status with modifications in nutritional therapy as indicated can accommodate the unique yet diverse needs of this population and support their therapeutic goals for recovery.
- **Option D:** Belong to the main goal during the resuscitative phase. Patients with burns of more than 20% – 25% of their body surface should be managed with aggressive IV fluid resuscitation to prevent “burn shock.”
- **Option E:** A comprehensive rehabilitation program is essential to decrease a patient’s post-traumatic effects and improve functional independence. While different professionals possess expertise in their own specialties, there are some simple and effective methods that can be utilized to help the patient reach their maximum functional outcome.

74. The nurse is evaluating the medical history of a client who will be receiving Asparaginase (Elspar). The nurse contacts the health care provider if which of the following is noted in the history?

- A. Diabetes Mellitus type II
- B. Pancreatitis
- C. Asthma
- D. Ischemic heart disease

Correct Answer: B. Pancreatitis

One of the major toxicities associated with asparaginase therapy is pancreatitis. Pancreatic function test should be performed before and during the administration of the medication.

- **Options A, C, & D:** These are not contraindicated with this medication.

75. A month after receiving a blood transfusion an immunocompromised male patient develops a fever, liver abnormalities, a rash, and diarrhea. The nurse would suspect this patient has:

- A. An allergic response to a recent medication.
- B. Graft-versus-host disease (GVHD).
- C. Myelosuppression.
- D. Nothing related to the blood transfusion.

Correct Answer: B. Graft-versus-host disease (GVHD)

GVHD occurs when white blood cells in donor blood attack the tissues of an immunocompromised recipient. This process can occur within a month of the transfusion. Options 1 and 4 may be a thought, but the nurse must remember that immunocompromised transfusion recipients are at risk for GVHD. Graft-versus-host disease (GvHD) is a systemic disorder that occurs when the graft's immune cells recognize the host as foreign and attack the recipient's body cells. "Graft" refers to transplanted, or donated tissue, and "host" refers to the tissues of the recipient. It is a common complication after allogeneic hematopoietic stem cell transplant (HCT)

- **Option A:** Allergic reaction, often manifested as urticaria and pruritis, occurs in less than 1% of transfusions. More severe symptoms, such as bronchospasm, wheezing, and anaphylaxis are rare. Allergic reactions may be seen in patients who are IgA deficient as exposure to IgA in donor products can cause a severe anaphylactoid reaction. This can be avoided by washing the plasma from the cells prior to transfusion. Mild symptoms, such as pruritis and urticaria can be treated with antihistamines. More severe symptoms can be treated with bronchodilators, steroids, and epinephrine.
- **Option C:** Another effect of receiving a blood transfusion, immunosuppression, causes a decreased immune response that compromises patients' ability to fight off infection or tumor cells. These effects – sensitization and immunosuppression – are thought to be due largely to white blood cells present in the transfusion product.
- **Option D:** 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. According to the American Association of Blood Banks (AABB), febrile reactions are the most common, followed by transfusion-associated circulatory overload, allergic reaction, TRALI, hepatitis C viral infection, hepatitis B viral infection, human immunodeficiency virus (HIV) infection, and fatal hemolysis which is extremely rare, only occurring almost 1 in 2 million transfused units of RBC.

76. Nurse Isabelle enters the room of a client with a cognitive impairment disorder and asks what day of the week it is; what the date, month, and year are; and where the client is. The nurse is attempting to assess:

- A. Confabulation.

- B. Delirium.
- C. Orientation.
- D. Perseveration.

Correct Answer: C. Orientation.

The initial, most basic assessment of a client with cognitive impairment involves determining his level of orientation (awareness of time, place, and person). The tools for reality orientation aim to reinforce the naming of objects and people as well as a timeline of events, past or present. Multiple studies have demonstrated that the use of reality orientation has improved cognitive functioning for people living with dementia when compared to control groups who did not receive it. As a rule, reality orientation must be mixed with compassion and used appropriately to benefit someone living with the confusion of dementia. Applying it without evaluating if it might cause emotional distress to the individual since there are some times when it would not be appropriate.

- **Option A:** Confabulation is a type of memory error in which gaps in a person's memory are unconsciously filled with fabricated, misinterpreted, or distorted information. When someone confabulates, they are confusing things they have imagined with real memories. A person who is confabulating is not lying. They are not making a conscious or intentional attempt to deceive. Rather, they are confident in the truth of their memories even when confronted with contradictory evidence.
- **Option B:** Delirium is a type of cognitive impairment; however, other symptoms are necessary to establish this diagnosis. Delirium, also known as the acute confusional state, is a clinical syndrome that usually develops in the elderly. It is characterized by an alteration of consciousness and cognition with reduced ability to focus, sustain, or shift attention. It develops over a short period and fluctuates during the day. The clinical presentation can vary, but usually, it flourishes with psychomotor behavioral disturbances such as hyperactivity or hypoactivity with increased sympathetic activity and impairment in sleep duration and architecture.
- **Option D:** The nurse may also assess for perseveration in a client with cognitive impairment but the questions in this situation would not elicit the symptom response. Perseveration according to psychology, psychiatry, and speech-language pathology, is the repetition of a particular response (such as a word, phrase, or gesture) regardless of the absence or cessation of a stimulus. It is usually caused by a brain injury or other organic disorder.

77. Jun approaches the nurse and tells that he hears a voice telling him that he's evil and deserves to die. Which of the following terms describes the client's perception?

- A. Delusion
- B. Disorganized speech
- C. Hallucination
- D. Idea of reference

Correct Answer: C. Hallucination

Hallucinations are sensory experiences that are misrepresentations of reality or have no basis in reality. Hallucinations are sensations that appear to be real but are created within the mind. Examples include seeing things that are not there, hearing voices or other sounds, experiencing body sensations like crawling feelings on the skin, or smelling odors that are not there.

- **Option A:** Delusions are beliefs not based on reality. Delusions are defined as fixed, false beliefs that conflict with reality. Despite contrary evidence, a person in a delusional state can't let go of their convictions. Delusions are often reinforced by the misinterpretation of events. Many delusions also involve some level of paranoia.
- **Option B:** Disorganized speech is characterized by jumping from one topic to the next or using unrelated words. Disorganized speech is characterized by a collection of speech abnormalities that can make a person's verbal communication difficult or impossible to comprehend. It is a symptom of schizophrenia.
- **Option D:** An idea of reference is a belief that an unrelated situation holds special meaning for the client. An idea of reference—sometimes called a delusion of reference—is the false belief that irrelevant occurrences or details in the world relate directly to oneself. Ideas of reference are variations on this behavior, and occur when a person believes something is referring to them when it is not. For example, a person shopping in a store might see two strangers laughing and believe that they are laughing at him or her when in reality the other two people do not even notice the person. Some mental health professionals believe this thought error is a type of cognitive bias.

78. Which of the following groups of antitubercular agents includes first-line agents?

- A. INH, PZA, RIF
- B. SM, PAS, INH
- C. EMB, PAS, INH
- D. INH, cycloserine, RIF

Correct Answer: A. INH, PZA, RIF

INH, PZA, and RIF are used as combination first-line agents. Antitubercular medications: rifampin, isoniazid, pyrazinamide, and ethambutol are FDA approved for the treatment of Mycobacterium tuberculosis infections. The combination and duration on which medications to use for therapy rely on whether the patient has an active or latent disease.

- **Option B:** Rifampin exerts its effects by reversibly inhibiting DNA-dependent RNA polymerase, which further inhibits bacterial protein synthesis and transcription. Isoniazid is a pro-drug that is converted to its active form metabolite by catalase-peroxidase and exerts its action by further inhibiting the biosynthesis of mycolic acid. Pyrazinamide's mechanism of action remains unknown and not fully understood. Pyrazinamide is converted to its active form pyrazinoic acid and exerts its effect by inhibiting trans-translation and possibly coenzyme A synthesis needed for the bacteria to survive.
- **Option C:** Ethambutol inhibits the enzyme arabinosyl transferases and prevents the biosynthesis of the mycobacterial cell wall. Aminoglycosides exert their action by binding to the 30S subunit of ribosomes and inhibiting the protein synthesis of the mycobacteria. Fluoroquinolones exert their effects by inhibiting DNA gyrase and topoisomerase IV, further inhibiting DNA synthesis within the bacteria.
- **Option D:** During active disease, there are two phases for treatment: the initiation phase and the continuation phase. The initiation phase consists of two months of rifampin, isoniazid, pyrazinamide, and ethambutol therapy. This regimen is administered orally daily for eight weeks for a total of 56 doses. Once completed, isoniazid and rifampin are continued for an additional four-month for the continuation phase. This regimen is administered orally daily for 18 weeks for a total of 126 doses. For patients that cannot tolerate ethambutol, streptomycin can be substituted.

79. Your patient's ABG reveals an acidic pH, an acidic CO₂, and a normal bicarbonate level. Which of the following indicates this acid-base disturbance?

- A. Respiratory acidosis
- B. Respiratory alkalosis
- C. Metabolic acidosis
- D. Metabolic alkalosis

Correct Answer: A. Respiratory acidosis

A pH of 7.35 indicates acidosis, as does an acidic CO₂ and bicarbonate. The primary disturbance of elevated arterial PCO₂ is the decreased ratio of arterial bicarbonate to arterial PCO₂, which leads to a lowering of the pH. In the presence of alveolar hypoventilation, 2 features commonly are seen are respiratory acidosis and hypercapnia. To compensate for the disturbance in the balance between carbon dioxide and bicarbonate (HCO₃⁻), the kidneys begin to excrete more acid in the forms of hydrogen and ammonium and reabsorb more base in the form of bicarbonate. See also: 8-Step Guide to ABG Analysis: Tic-Tac-Toe Method

- **Option B:** Respiratory alkalosis is 1 of the 4 basic classifications of blood pH imbalances. Normal human physiological pH is 7.35 to 7.45. A decrease in pH below this range is acidosis, an increase above this range is alkalosis. Respiratory alkalosis is by definition a disease state where the body's pH is elevated to greater than 7.45 secondary to some respiratory or pulmonary process.
- **Option C:** Determining the type of metabolic acidosis can help clinicians narrow down the cause of the disturbance. Acidemia refers to a pH less than the normal range of 7.35 to 7.45. In addition, metabolic acidosis requires a bicarbonate value less than 24 mEq/L. Further classification of metabolic acidosis is based on the presence or absence of an anion gap, or concentration of unmeasured serum anions.
- **Option D:** HCO₃ functions as an alkalotic substance. CO₂ functions as an acidic substance. Therefore, increases in HCO₃ or decreases in CO₂ will make blood more alkalotic. The opposite is also true where decreases in HCO₃ or an increase in CO₂ will make blood more acidic. CO₂ levels are physiologically regulated by the pulmonary system through respiration, whereas the HCO₃ levels are regulated through the renal system with reabsorption rates. Therefore, metabolic alkalosis is an increase in serum HCO₃.

80. A physician has diagnosed acute gastritis in a clinic patient. Which of the following medications would be contraindicated for this patient?

- A. Naproxen sodium (Naprosyn)
- B. Calcium carbonate
- C. Clarithromycin (Biaxin)
- D. Furosemide (Lasix)

Correct Answer: A. Naproxen sodium (Naprosyn)

Naproxen sodium is a nonsteroidal anti-inflammatory drug that can cause inflammation of the upper GI tract. For this reason, it is contraindicated in a patient with gastritis. Naproxen is used to relieve pain from various conditions such as headache, muscle aches, tendonitis, dental pain, and menstrual

cramps. It also reduces pain, swelling, and joint stiffness caused by arthritis, bursitis, and gout attacks.

- **Option B:** Calcium carbonate is used as an antacid for the relief of indigestion and is not contraindicated. Calcium carbonate is a dietary supplement used when the amount of calcium taken in the diet is not enough. Calcium is needed by the body for healthy bones, muscles, nervous system, and heart. Calcium carbonate also is used as an antacid to relieve heartburn, acid indigestion, and upset stomach. It is available with or without a prescription.
- **Option C:** Clarithromycin is an antibacterial often used for the treatment of *Helicobacter pylori* in gastritis. Clarithromycin is used to treat certain bacterial infections, such as pneumonia (a lung infection), bronchitis (infection of the tubes leading to the lungs), and infections of the ears, sinuses, skin, and throat. It also is used to treat and prevent disseminated *Mycobacterium avium* complex (MAC) infection [a type of lung infection that often affects people with human immunodeficiency virus (HIV)]. It is used in combination with other medications to eliminate *H. pylori*, a bacterium that causes ulcers. Clarithromycin is in a class of medications called macrolide antibiotics. It works by stopping the growth of bacteria.
- **Option D:** Furosemide is a loop diuretic and is NOT contraindicated in a patient with gastritis. Furosemide is used alone or in combination with other medications to treat high blood pressure. Furosemide is used to treat edema (fluid retention; excess fluid held in body tissues) caused by various medical problems, including heart, kidney, and liver disease. Furosemide is in a class of medications called diuretics ('water pills'). It works by causing the kidneys to get rid of unneeded water and salt from the body into the urine.

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

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

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

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

82. Which of the following methods of insulin administration would be used in the initial treatment of hyperglycemia in a client with diabetic ketoacidosis?

- A. Subcutaneous
- B. Intramuscular

- C. IV bolus only
- D. IV bolus, followed by continuous infusion

Correct Answer: D. IV bolus, followed by continuous infusion.

An IV bolus of insulin is given initially to control the hyperglycemia; followed by a continuous infusion, titrated to control blood glucose. Previous treatment protocols have recommended the administration of an initial bolus of 0.1 U/kg, followed by the infusion of 0.1 U/kg/h. 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 A:** After the client is stabilized, subcutaneous insulin is given. Treatment of adult patients who have uncomplicated, mild diabetic ketoacidosis can be treated with subcutaneous insulin lispro hourly in a non-intensive care setting may be safe and cost-effective as opposed to treatment with intravenous regular insulin in the intensive care setting as shown in many studies.
- **Option B:** Insulin is never given intramuscularly. In one of these studies, the patients received subcutaneous insulin lispro at a dose of 0.3 U/kg initially, followed by 0.1 U/kg every hour until blood glucose was less than 250 mg/dl. Then insulin dose was decreased to 0.05 or 0.1 U/kg given every hour until the resolution of DKA.
- **Option C:** Intravenous insulin by continuous infusion is the standard of care. When the plasma glucose reaches 200-250 mg/dl, and if the patient still has an anion gap, then dextrose-containing fluids should be initiated, and the insulin infusion rate may need to be reduced.

83. To be effective in meeting various ethnic needs, the nurse should:

- A. Treat all clients alike.
- B. Be aware of the client's cultural differences.
- C. Act as if he or she is comfortable with the client's behavior.
- D. Avoid asking questions about the client's cultural background.

Correct Answer: B. Be aware of the client's cultural differences.

Nurses can pay close attention to their own biases and how they react to people whose backgrounds and cultural experiences differ from their own. For example, a person who becomes conscious that they think of immigrants as illegal aliens achieves cultural awareness of that particular bias.

- **Option A:** Once nurses tap into awareness, they can actively analyze their increased awareness and internal belief systems. Using the above example, the person can examine their background, beliefs, and values to understand their cultural bias regarding immigrants.
- **Option C:** Often, individual beliefs and values do not correspond to their behavior and actions. Nurses can work to acknowledge that this disconnect exists and view knowledge as an important element of developing cultural competence. Research has shown that people who score low on prejudice tests may still use labels such as "illegal alien."
- **Option D:** Nurses put their awareness, attitude, and knowledge into practice by repeating culturally competent behaviors until they become integrated into their daily interactions. These behaviors include effective and respectful communication and body language. Among various cultures, nonverbal communication methods, such as gestures, can mean very different things.

84. 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.

85. A client is subjected to undergo a chest x-ray to confirm the endotracheal tube placement. The tube should be how many centimeters above the carina?

- A. 2-4 cm.
- B. 1.5-3 cm.
- C. 1-2 cm.
- D. 0.5-1 cm.

Correct Answer: C. 1-2 cm.

Placement of an endotracheal tube is confirmed by a chest x-ray and the correct placement is 1 to 2 cm above the carina. Check patient's chest x-ray for tube placement and presence of CO₂ per ET CO₂ detector after any new intubation; auscultate chest for equal breath sounds bilaterally, and adjust E.T. tube for proper placement.

- **Option A:** Check tube placement with each ventilator assessment. The optimal placement for the endotracheal tube is 2-3cm above the carina in adults. If repositioning of the endotracheal tube is warranted, suction the tube and then suction the oropharynx.
- **Option B:** Positioning the ET tip 4 cm above carina as recommended will result in placement of tube cuff inside cricoid ring with currently available tubes. Optimal depth of ET placement can be estimated by the formula $(\text{Height in cm}/7)-2.5$.
- **Option D:** It is suggested that the tip of ET should be at least 4 cm from the carina, or the proximal part of the cuff should be 1.5 to 2.5 cm from the vocal cords. Considering that the length of trachea, as well as the distance from teeth to vocal cords, is variable, securing ET at a fixed length will result in endobronchial intubation or endolaryngeal placement of the ET cuff in some patients.