

Kevin's Review - 85 NCLEX Practice Questions

1. What is the approximate time that the blastocyst spends traveling to the uterus for implantation?

- A. 2 days
- B. 7 days
- C. 10 days
- D. 14 weeks

Correct Answer: B. 7 days

The blastocyst takes approximately 1 week to travel to the uterus for implantation. Implantation is a process in which a developing embryo, moving as a blastocyst through a uterus, makes contact with the uterine wall and remains attached to it until birth.

- **Option A:** The zygote moves through the fallopian tube and undergoes cell division, a process called cleavage. These cell divisions produce the inner cell mass (ICM), which will become the embryo, and the trophoblast, which surrounds the ICM and interacts with maternal tissues. Together, the ICM and the trophoblast are called the blastocyst.
- **Option C:** A blastocyst successfully implants in the uterus when, as the zona pellucida exits the fallopian tube, the blastocyst leaves the zona pellucida and binds to the endometrium.
- **Option D:** 14 weeks is too long a time to wait for implantation. If the blastocyst does not implant within 7 days, the pregnancy may not occur at all.

2. A nurse is monitoring a client receiving ethambutol (Myambutol) for adverse effects. The nurse determines that the client is experiencing a side effect of the medication, in which of the following?

- A. Red-orange colored bodily secretions
- B. Damaged hearing
- C. Loss of smell
- D. Difficulty distinguishing the color red from green

Correct Answer: D. Difficulty distinguishing the color yellow from orange

Ethambutol (Myambutol) causes optic neuritis characterized by decreased visual acuity and the ability to distinguish between the color red from green.

- **Option A:** Red-orange discoloration of secretions is a side effect of Rifampin.
- **Option B:** Ototoxicity is a side effect of Streptomycin.
- **Option C:** This is not a related symptom of this anti-TB medication.

3. In which of the following diseases would bone marrow transplantation not be indicated in a newly diagnosed client?

- A. Severe aplastic anemia
- B. Severe combined immunodeficiency

- C. Acute lymphocytic leukemia
- D. Chronic myeloid leukemia

Correct Answer: C. Acute lymphocytic leukemia

- **Option C:** For the first episode of acute lymphocytic leukemia, conventional therapy is superior to bone marrow transplantation. Treatment is usually long-term chemotherapy and is composed of 3 phases (induction, consolidation, and maintenance).
- **Options A and B:** In severe combined immunodeficiency and in severe aplastic anemia, bone marrow transplantation has been employed to replace abnormal stem cells with healthy cells from the donor's marrow.
- **Option D:** In myeloid leukemia, bone marrow transplantation is done after chemotherapy to infuse healthy marrow and to replace marrow stem cells ablated during chemotherapy.

4. Which of the following instructions would Nurse Courtney include in a teaching plan that focuses on initial prevention for Sheri who is diagnosed with rheumatic fever?

- A. Treating streptococcal throat infections with an antibiotic
- B. Giving penicillin to patients with rheumatic fever
- C. Using corticosteroid to reduce inflammation
- D. Providing an antibiotic before dental work

Correct Answer: A. Treating streptococcal throat infections with an antibiotic.

Rheumatoid fever results from improperly treated group beta-hemolytic streptococcal infections, usually pharyngitis. Therefore, prompt treatment of streptococcal throat infections with an antibiotic is a key preventive measure. Recurrent episodes generally affect older children and can occur into young adulthood. Because RHD often results from cumulative damage, the peak prevalence of RHD occurs in an individual's twenties and thirties, though the burden of RHD in children and adolescents remains substantial.

- **Option B:** Initial prevention is not possible once the child has rheumatic fever. However, the child will be treated with penicillin to prevent a recurrence of streptococcal infections. It is important to educate patients about seeking treatment for sore throats, as well as emphasizing the role of dental care.
- **Option C:** A corticosteroid may be used to reduce inflammation during treatment of rheumatic fever, not as a preventive measure. The first aim of management of ARF is to confirm the diagnosis, for which a high index of suspicion is needed, especially in patients presenting with acute arthritis in geographic settings where ARF is endemic.
- **Option D:** An antibiotic is given to children with cardiac disease to prevent carditis, not rheumatic fever. Beyond diagnosis, the priorities in management of ARF are the eradication of the group A streptococcus from the throat and commencement of secondary prophylaxis; symptomatic treatment of arthritis and/or arthralgia; management of carditis and/or heart failure; management of chorea; and patient and family education.

5. A child is seen in the pediatrician's office for complaints of bone and joint pain. Which of the following other assessment findings may suggest leukemia?

- A. Increased activity level
- B. Increased appetite
- C. Petechiae
- D. Abdominal pain

Correct Answer: C. Petechiae

- **Option C:** The most frequent signs and symptoms of leukemia are a result of infiltration of the bone marrow. These include fever, pallor, fatigue, anorexia, and petechiae, along with bone and joint pain. Petechiae is brought about by damaged or broken blood vessels underneath the skin.
- **Option A:** Leukemia increases inflammation in the body, which can make a person feel tired and experience fatigue causing decreased activity level.
- **Option B:** Increased appetite can occur but it usually isn't a presenting symptom.
- **Option D:** Abdominal pain may be caused by areas of inflammation from normal flora within the GI tract or any number of other causes.

6. Which of the following is included in Orem's theory?

- A. Maintenance of a sufficient intake of air.
- B. Self perception.
- C. Love and belongingness.
- D. Physiologic needs.

Correct Answer: A. Maintenance of a sufficient intake of air.

Dorothea Orem's Self-Care Theory defined Nursing as "The act of assisting others in the provision and management of self-care to maintain or improve human functioning at home level of effectiveness." The Self-Care or Self-Care Deficit Theory of Nursing is composed of three interrelated theories: (1) the theory of self-care, (2) the self-care deficit theory, and (3) the theory of nursing systems, which is further classified into wholly compensatory, partial compensatory and supportive-educative. Choices B, C, and D are from Abraham Maslow's Hierarchy of Needs.

- **Option B:** At the fourth level in Maslow's hierarchy is the need for appreciation and respect. When the needs at the bottom three levels have been satisfied, the esteem needs begin to play a more prominent role in motivating behavior. At this point, it becomes increasingly important to gain the respect and appreciation of others. People have a need to accomplish things and then have their efforts recognized. In addition to the need for feelings of accomplishment and prestige, esteem needs include such things as self-esteem and personal worth.
- **Option C:** The social needs in Maslow's hierarchy include such things as love, acceptance, and belonging. At this level, the need for emotional relationships drives human behavior. In order to avoid problems such as loneliness, depression, and anxiety, it is important for people to feel loved and accepted by other people. Personal relationships with friends, family, and lovers play an important role, as does involvement in other groups that might include religious groups, sports teams, book clubs, and other group activities.
- **Option D:** The basic physiological needs are probably fairly apparent—these include the things that are vital to our survival. In addition to the basic requirements of nutrition, air and temperature regulation, the physiological needs also include such things as shelter and clothing. Maslow also

included sexual reproduction in this level of the hierarchy of needs since it is essential to the survival and propagation of the species.

7. Myocardial oxygen consumption increases as which of the following parameters increase?

- A. Preload, afterload, and cerebral blood flow.
- B. Preload, afterload, and renal blood flow.
- C. Preload, afterload, contractility, and heart rate.
- D. Preload, afterload, cerebral blood flow, and heart rate.

Correct Answer: C. Preload, afterload, contractility, and heart rate.

Myocardial oxygen consumption increases as preload, afterload, renal contractility, and heart rate increase. Cerebral blood flow doesn't directly affect myocardial oxygen consumption. Myocardial oxygen consumption is equal to coronary blood flow multiplied by the arterial-venous oxygen difference. During diastole, the ventricles are receiving blood before systolic contraction. This filling phase of the cardiac cycle allows the coronary arteries to provide maximum blood flow to the heart.

- **Option A:** Since the heart operates solely under aerobic metabolism, myocardial mitochondria must maintain an abundance of oxygen to continue oxidative phosphorylation. Heart rate, contractility, and ventricular-wall tension are the three factors that determine myocardial oxygen demand. An increase in any of these variables requires the body to adapt to sustain adequate oxygen supply to the heart.
- **Option B:** Heart rate is thought to be the most important factor affecting myocardial oxygen demand. With an increased heart rate, the myocardium must work harder to complete the cardiac cycle more efficiently. With a shortened cardiac cycle, the time spent in diastole decreases.
- **Option D:** Contractility or inotropism is the rate of increase in the intraventricular pressure during contraction at a given muscle fiber length. Interestingly, myocytes have the innate ability to exert a contraction at any muscle length. This force is measured after the closure of the mitral valve and before the opening of the aortic valve during which time the intraventricular volume remains constant.

8. A client had undergone radiation therapy (external). The expected side effects include the following apart from:

- A. Hair loss
- B. Ulceration of oral mucous membranes
- C. Constipation
- D. Headache

Correct Answer: C. Constipation

- **Option C:** Diarrhea, not constipation is the side effect of radiation therapy which usually starts during or right after the treatment and may last for several weeks.
- **Options A, B, and D:** These are common side effects of radiation therapy.

9. The most reliable index to determine the respiratory status of a client is to:

- A. Observe the chest rising and falling.
- B. Observe the skin and mucous membrane color.
- C. Listen and feel the air movement.
- D. Determine the presence of a femoral pulse.

Correct Answer: C. Listen and feel the air movement.

To check for breathing, the nurse places her ear and cheek next to the client's mouth and nose to listen and feel for air movement. During the inspection, the examiner should pay attention to the pattern of breathing: thoracic breathing, thoracoabdominal breathing, coastal markings, and use of accessory breathing muscles. The use of accessory breathing muscles (i.e., scalenes, sternocleidomastoid muscle, intercostal muscles) could point to excessive breathing effort caused by pathologies.

- **Option A:** The chest rising and falling is not conclusive of a patent airway. The position of the patient should also be noted, patients with extreme pulmonary dysfunction will often sit up-right, and in distress, they assume the tripod position (leaning forward, resting their hands on their knees).
- **Option B:** Observing skin color is not an accurate assessment of respiratory status. The body habitus of the patient could provide information regarding chest compliance, especially in the case of severely obese patients where chest mobility and compliance are reduced due to added weight from adipose tissue.
- **Option D:** Checking the femoral pulse is not an assessment of respiratory status. Palpation should focus on detecting abnormalities like masses or bony crepitus. During palpation the examiner can evaluate tactile fremitus: the examiner will place both of his hands on the patient's back, medial to the shoulder blades, and ask the patient to say "ninety-nine."

10. A nurse caring for a client with an ileostomy understands that the client is most at risk for developing which acid-base disorder?

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

Correct Answer: C. Metabolic acidosis

Intestinal secretions are high in bicarbonate and may be lost through enteric drainage tubes or an ileostomy or with diarrhea. These conditions result in metabolic acidosis. Non-gap metabolic acidosis is primarily due to the loss of bicarbonate, and the main causes of this condition are diarrhea and renal tubular acidosis. Anion gap metabolic acidosis is frequently due to anaerobic metabolism and lactic acid accumulation. While lactate is part of many mnemonics for metabolic acidosis, it is important to distinguish it is not a separate etiology, but rather a consequence of a condition.

- **Option A:** In acute respiratory acidosis, there is a sudden elevation of PCO₂ because of failure of ventilation. This may be due to cerebrovascular accidents, use of central nervous system (CNS) depressants such as opioids, or inability to use muscles of respiration because of disorders like myasthenia gravis, muscular dystrophy or Guillain-Barre Syndrome. Because of its acute nature,

there is a slight compensation occurring minutes after the incidence.

- **Option B:** HCO₃ functions as an alkalotic substance. CO₂ (carbon dioxide) functions as an acidic substance. Therefore, Increases in HCO₃ (bicarbonate) 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.
- **Option D:** Stomach fluids are highly acidic at a pH of approximately 1.5 to 3.5. Hydrogen secretion is accomplished via parietal cells in the gastric mucosa. Therefore, the large volume loss of gastric secretions will correlate as a loss of hydrogen chloride, an acidic substance, leading to a relative increase in bicarbonate in the blood, thus driving alkalosis. Losses can occur pathologically via vomitus or nasogastric suctioning.

11. Marie with acute lymphocytic leukemia suffers from nausea and headache. These clinical manifestations may indicate all of the following except:

- A. Effects of radiation
- B. Chemotherapy side effects
- C. Meningeal irritation
- D. Gastric distension

Correct Answer: D. Gastric distension

Acute Lymphocytic Leukemia (ALL) does not cause gastric distention. It does invade the central nervous system, and clients experience headaches and vomiting from meningeal irritation. The primary care provider and nurse practitioner may be responsible for follow up after treatment and report back to the interprofessional team. These patients need close monitoring as they are prone to infections, coagulation dyscrasias, and relapse.

- **Option A:** Some effects of radiation are nausea, vomiting, and headaches. The pharmacist should educate the patient on chemotherapy medications, their adverse effects, and benefits. The dietitian should encourage a healthy diet. To prevent infections, the nurse practitioner should encourage hand washing, washing of fruits and vegetables and maintaining good personal hygiene.
- **Option B:** Chemotherapy side effects include nausea, vomiting, and hair loss. Treatment options include prochlorperazine, haloperidol, metoclopramide, lorazepam, dexamethasone, ondansetron, granisetron, dolasetron, palonosetron, dronabinol, aprepitant, fosaprepitant, netupitant. palonosetron has a longer half-life, better efficacy, and higher binding affinity than granisetron.
- **Option C:** Clients may experience headaches and vomiting due to meningeal irritation. Meningitis can have a varied clinical presentation depending on age and immune status of the host. Symptoms typically include fever, neck pain/stiffness, and photophobia. More non-specific symptoms include headache, dizziness, confusion, delirium, irritability, and nausea/vomiting.

12. The nurse teaching a client who will receive thiopental (Pentothal) as an anesthetic explains what common adverse effects might occur?

- A. Headache

- B. Emergence delirium
- C. Nausea and vomiting
- D. Paralysis

Correct Answer: B. Emergence delirium

Emergence delirium could occur postoperatively, and is characterized by hallucinations, confusion, and excitability. Barbiturates are a group of sedative-hypnotic medications used for the treatment of seizure disorder, neonatal withdrawal, insomnia, preoperative anxiety, induction of coma for increased intracranial pressure. They are also useful for inducing anesthesia.

- **Option A:** Drug interactions with oral barbiturates have been a frequent topic of research. Phenobarbital is known to be an inducer of the cytochrome enzyme system, specifically the CYP1A2, 2B6, 2C9, and 3A4/5 isozymes that will reduce the efficacy of warfarin, steroids, oral contraceptives, psychoactive, immunosuppressants. Phenobarbital will also lower the plasma concentrations of other antiepileptic drugs such as lamotrigine, oxcarbazepine, phenytoin, tiagabine, and valproate.
- **Option C:** Overdose of phenobarbital symptoms includes CNS depression, respiratory failure, and hemodynamic instability. No antidote exists. Treatment of an overdose includes supportive care, activated charcoal (if taken orally), and urinary alkalinization.
- **Option D:** Phenobarbital has a narrow therapeutic range of 10 to 30 mg/L, with 80mg/L reported as being fatal.[38] A Cochrane review found no clear evidence of a benefit to routine serum monitoring of drug concentrations for antiepileptic drugs. Dose titration to control seizures was found to be effective.

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

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

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

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

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

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

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

14. Which factor is associated with increased risk for schizophrenia?

- A. Alcoholism
- B. Adolescent pregnancy
- C. Overcrowded schools
- D. Poverty

Correct Answer: D. Poverty

Low socioeconomic status or poverty is an identified environmental factor associated with an increased incidence of schizophrenia. A criticism of this research field, which is in fact a criticism relevant to much social science research, is that the investigation of socio-environmental factors in the environment invariably focuses on poverty and deprivation to the exclusion of other important variables. One such variable is income inequality. Income inequality is a measure of the 'rich-poor gap' in any given society and therefore it exists at the ecological level.

- **Option A:** Harmful alcohol and other drug use, particularly cannabis and amphetamine use, may trigger psychosis in people who are vulnerable to developing schizophrenia. While substance use does not cause schizophrenia, it is strongly related to relapse. People with schizophrenia are more likely than the general population to use alcohol and other drugs, and this is detrimental to treatment.
- **Option B:** There are also arguments that schizophrenia is a neurodevelopmental disorder based on abnormalities present in the cerebral structure, an absence of gliosis suggesting in utero changes, and the observation that motor and cognitive impairments in patients precede the illness onset. Risk factors include birthing complications, the season of birth, severe maternal malnutrition, maternal influenza in pregnancy, family history, childhood trauma, social isolation, cannabis use, minority ethnicity, and urbanization.
- **Option C:** Although overcrowded schools may be stressful, research does not show they increase the risk of schizophrenia. Socio-environmental risk factors for schizophrenia can be classified in terms of individual factors and neighborhood-level or ecological factors. Individual factors include unemployment, low socioeconomic status, and migration (Byrne et al, 2004; Cooper, 2005; Marwaha & Johnson, 2004; Subramanian & Kawachi, 2004), while neighborhood-level factors include urbanicity, ethnic density, and deprivation (Kirkbride et al, 2007; Krabbendam & van Os, 2005; van Os et al, 2005).

15. Which of the following statements is true about monotherapy for treatment of HIV disease?

- A. It is the only FDA-approved treatment for HIV disease.
- B. It is able to effectively destroy all viral particles of HIV.
- C. It interferes with the replication of HIV virus without causing any side effects.
- D. It appears to cause rapid resistance.

Correct Answer: D. It appears to cause rapid resistance.

With monotherapy, resistance can emerge within a few months. Antiretrovirals are drugs used to treat HIV infections/AIDS, and they are used in various combinations, commonly referred to as highly active antiretroviral therapy (HAART). The antiretrovirals agent include nucleoside/nucleotide reverse transcriptase inhibitors (NRTIs), NRTI fixed-dose combinations, integrase inhibitors, non-nucleoside reverse transcriptase inhibitors (NNRTIs), protease inhibitors, and CCR5 inhibitors.

- **Option A:** HIV antiretroviral therapy should always be done with combination regimens. Initial treatment usually consists of two NRTIs (usually abacavir/lamivudine or tenofovir/emtricitabine) in combination with a third antiviral drug from one of the following classes: integrase inhibitor, NNRTI or protease inhibitor plus an enhancer (cobicistat or ritonavir).
- **Option B:** All patients with HIV, regardless of what level of CD4, should be started on HAART, which is a treatment for life. This therapy has been shown to reduce morbidity and mortality and lower the risk of transmitting the infection to others, as long as they have a low or undetectable viral load.
- **Option C:** Based on recent multicenter-multinational randomized controlled trials the latest guidelines indicate that HIV antiretroviral therapy should be initiated early in the disease process regardless of CD4 cell count in all adult and adolescent patients. This strategy has been shown to decrease morbidity and mortality related to HIV infection as well as HIV transmission.

16. A client diagnosed with active TB would be hospitalized primarily for which of the following reasons?

- A. To evaluate his condition.
- B. To determine his compliance.
- C. To prevent spread of the disease.
- D. To determine the need for antibiotic therapy.

Correct Answer: C. To prevent spread of the disease

The client with active TB is highly contagious until three consecutive sputum cultures are negative, so he's put in respiratory isolation in the hospital. Review the necessity of infection control measures. Put in temporary respiratory isolation if indicated. May help the patient understand the need for protecting others while acknowledging the patient's sense of isolation and social stigma associated with communicable diseases. AFB can pass through standard masks; therefore, particulate respirators are required.

- **Option A:** Identify others at risk like household members, close associates and friends. Those exposed may require a course of drug therapy to prevent spread or development of infection.
- **Option B:** Stress importance of uninterrupted drug therapy. Evaluate a patient's potential for cooperation. Compliance with multidrug regimens for prolonged periods is difficult, so directly observed therapy (DOT) should be considered.
- **Option D:** Initial therapy of uncomplicated pulmonary disease usually includes four drugs, e.g., four primary drugs or combination of primary and secondary drugs. Review importance of follow-up and periodic reculturing of sputum for the duration of therapy.

17. A two-year-old child has sustained an injury to the leg and refuses to walk. The nurse in the emergency department documents swelling of the lower

affected leg. Which of the following does the nurse suspect is the cause of the child's symptoms?

- A. Possible fracture of the tibia.
- B. Bruising of the gastrocnemius muscle.
- C. Possible fracture of the radius.
- D. No anatomic injury, the child wants his mother to carry him.

Correct Answer: A. Possible fracture of the tibia.

The child's refusal to walk, combined with swelling of the limb is suspicious for fracture. The severity of a fracture usually depends on the force that caused the break. If the bone's breaking point has been exceeded only slightly, then the bone may crack rather than break all the way through. If the force is extreme, such as in an automobile crash or a gunshot, the bone may shatter.

- **Option B:** Toddlers will often continue to walk on a muscle that is bruised or strained. If the bone breaks in such a way that bone fragments stick out through the skin, or a wound penetrates down to the broken bone, the fracture is called an "open" fracture. This type of fracture is particularly serious because once the skin is broken, infection in both the wound and the bone can occur.
- **Option C:** The radius is found in the lower arm and is not relevant to this question. If possible, do not move a person with a broken bone until a healthcare professional is present and can assess the situation and, if required, apply a splint. If the patient is in a dangerous place, such as in the middle of a busy road, one sometimes has to act before the emergency services arrive.
- **Option D:** Toddlers rarely feign injury to be carried, and swelling indicates a physical injury. The signs and symptoms of a fracture vary according to which bone is affected, the patient's age and general health, as well as the severity of the injury.

18. Which of the following nursing diagnoses would be appropriate for a client with heart failure? Select all that apply.

- A. Ineffective tissue perfusion related to decreased peripheral blood flow secondary to decreased cardiac output.
- B. Activity intolerance related to increased cardiac output.
- C. Decreased cardiac output related to structural and functional changes.
- D. Impaired gas exchange related to decreased sympathetic nervous system activity.
- E. Acute pain related to inability to meet the oxygen demands.

Correct Answer: A, C & E.

HF is a result of structural and functional abnormalities of the heart tissue muscle. The heart muscle becomes weak and does not adequately pump the blood out of the chambers. As a result, blood pools in the left ventricle and backs up into the left atrium, and eventually into the lungs. Therefore, greater amounts of blood remain in the ventricle after contraction thereby decreasing cardiac output. In addition, this pooling leads to thrombus formation and ineffective tissue perfusion because of the decrease in blood flow to the other organs and tissues of the body. Typically, these clients have an ejection fraction of less than 50% and poorly tolerate activity.

- **Option A:** Due to decreased cardiac output, there is decreased preload and stroke volume thus there is decreased blood pumped out from the blood. Decrease in stroke volume decreases

perfusion throughout the body.

- **Option B:** Activity intolerance is related to a decrease, not increase, in cardiac output. As heart failure becomes more severe, the heart is unable to pump the amount of blood required to meet all of the body's needs. To compensate, blood is diverted away from less-crucial areas, including the arms and legs, to supply the heart and brain. As a result, people with heart failure often feel weak (especially in their arms and legs), tired and have difficulty performing ordinary activities such as walking, climbing stairs or carrying groceries
- **Option C:** The heart fails to pump enough blood to meet the metabolic needs of the body. The blood flow that supplies the heart is also decreased therefore decrease in cardiac output occurs, blood then is insufficient and making it difficult to circulate the blood to all parts of the body thus may cause altered heart rate and rhythm, weakness, and paleness.
- **Option D:** Gas exchange is impaired. However, the decrease in cardiac output triggers compensatory mechanisms, such as an increase in sympathetic nervous system activity. The exchange in oxygenation and carbon dioxide gases is impeded due to the obstruction caused by the accumulation of bronchial secretions in the alveoli. Oxygen cannot diffuse easily.
- **Option E:** When a coronary artery is blocked, blood flow to the area of the heart supplied by that artery is reduced. If the remaining blood flow is inadequate to meet the oxygen demands of the heart, the area may become ischemic and injured and myocardial infarction may result. Neural pain receptors are stimulated by local mechanical stress resulting from abnormal myocardial contraction.

19. A client who has an indwelling catheter reports the need to urinate. Which of the following interventions should the nurse perform?

- A. Check to see whether the catheter is patent.
- B. Reassure the client that it is not possible for her to urinate.
- C. Re-catheterize the bladder with a larger gauge catheter.
- D. Collect a urine specimen for analysis.

Correct Answer: A. Check to see whether the catheter is patent.

A clogged or kinked catheter causes the bladder to fill and stimulates the need to urinate. An indwelling urinary catheter (IUC), generally referred to as a "Foley" catheter, is a closed sterile system with a catheter and retention balloon that is inserted either through the urethra or suprapubically to allow for bladder drainage. External collecting devices (e.g. drainage tubing and bag) are connected to the catheter for urine collection.

- **Option B:** Reassuring the client that it is not possible to urinate is a non-therapeutic response because it diminishes the client's concern. Check the tube once in a while for bends or kinks that keep pee from flowing out. Empty the leg bag twice a day or when it's half full. Keep the drainage bag below your bladder so it drains well.
- **Option C:** There are less invasive approaches the nurse can take before replacing the catheter. Indwelling urinary catheters are recommended only for short-term use, defined as less than 30 days (EAUN recommends no longer than 14 days.) The catheter is inserted for continuous drainage of the bladder for two common bladder dysfunction: urinary incontinence (UI) and urinary retention.
- **Option D:** Although it may become necessary to collect a urine specimen, there is a simpler approach the nurse can take to assess and possibly resolve the client's problem.

20. When administering codeine, the nurse should be aware that:

- A. Codeine produces more sedation than other opiates.
- B. Codeine causes diarrhea, so the client must take an additional drug to prevent this.
- C. Codeine is very constipating.
- D. Codeine is antitussive in high doses.

Correct Answer: C. Codeine is very constipating.

Codeine is very constipating, so the client's diet should include foods that fight constipation, such as water, fruits, and vegetables. Constipation is one of the most common adverse effects of codeine. Most patients report some constipation following the initiation of therapy or increases in dose. With continued exposure, the resolution of constipation does not occur. The clinician should advise stool softeners along with codeine.

- **Option A:** Clouded mentation or sedation following codeine initiation tends to fade over time. During initiation or increasing doses, patients should receive counsel about considering precautions at work and restrictions with driving. They should also understand the effects and risks with concomitant exposure to other substances and drugs with sedating effects.
- **Option B:** Constipation is one of the most common adverse effects of codeine. Most patients report some constipation following the initiation of therapy or increases in dose. With continued exposure, the resolution of constipation does not occur.
- **Option D:** Codeine is useful in the treatment of various etiologies producing chronic cough. Also, 46% of patients with chronic cough do not have a distinct etiology despite a proper diagnostic evaluation. Codeine produces a decrease in cough frequency and severity in these patients.

21. A nurse is giving instruction to a client who is receiving cholestyramine (Questran) for the treatment of hyperlipidemia. Which of the following statements made by the client indicates the need for further instructions?

- A. "This medication comes in a powder that must be mixed with juice or water before administration".
- B. "I will avoid eating foods rich in saturated fats".
- C. "I will take my Vitamin A 30 minutes after cholestyramine".
- D. "Constipation, belching and heartburn are some of the side effects".

Correct Answer: C. "I will take my Vitamin A 30 minutes after cholestyramine".

Cholestyramine (Questran) affects the fat digestion of vitamins such as Vitamin A, D, E, and K, therefore, decreasing its absorption. It is advised that other oral medications should be taken 1 hour before or 4 to 6 hours after taking cholestyramine.

- **Options A, B, & D:** These are correct statements regarding the medication.

22. During the endorsement, which of the following clients should the on-duty nurse assess first?

- A. The 58-year-old client who was admitted 2 days ago with heart failure, blood pressure of 126/76 mm Hg, and a respiratory rate of 22 breaths/minute.
- B. The 89-year-old client with end-stage right-sided heart failure, blood pressure of 78/50 mm Hg, and a “do not resuscitate” order.
- C. The 62-year-old client who was admitted 1 day ago with thrombophlebitis and is receiving L.V. heparin.
- D. The 75-year-old client who was admitted 1 hour ago with new-onset atrial fibrillation and is receiving L.V. diltiazem (Cardizem).

Correct Answer: D. The 75-year-old client who was admitted 1 hour ago with new-onset atrial fibrillation and is receiving L.V. diltiazem (Cardizem).

The client with atrial fibrillation has the greatest potential to become unstable and is on L.V. medication that requires close monitoring.

- **Option A:** After assessing the client with thrombophlebitis, the nurse should assess the 58-year-old client admitted 2 days ago with heart failure (his signs and symptoms are resolving and don't require immediate attention).
- **Option B:** The lowest priority is the 89-year-old with end-stage right-sided heart failure, who requires time-consuming supportive measures.
- **Option C:** Assess this patient next because he is at high risk for developing an emboli, which is fatal.

23. The nurse is evaluating a client's response to hemodialysis. Which lab results will indicate the dialysis was effective? Select all that apply.

- A. Serum potassium level decreases from 5.4 to 4.6 mEq/L
- B. Cr decreases from 1.6 to 0.8 mg/dL
- C. Hgb increases from 10-12 g/dL
- D. WBC increase from 5000 to 8000/mm³
- E. BUN decreases from 110 to 90 mg/dL

Correct Answer: A, B, and E.

Primary action of hemodialysis is to clear nitrogenous waste products. Dialysis adequacy measures the effectiveness of the dialysis treatments. It is important to receive enough dialysis to feel well and minimize the side effects of kidney failure.

- **Option A:** When the kidneys do not work properly, potassium may build up in the blood. A potassium level that is too high or too low may weaken muscles and change the heart rhythm. The ideal range for potassium in a person on dialysis is 3.5-5.5.
- **Option B:** Dialysis has a positive impact on serum creatinine level and reduces its level towards normal value. Results showed that most of the patients (58%) had serum creatinine below 7 mg/dl after dialysis.
- **Option C:** The hemoglobin is frequently low in people with kidney failure because the kidneys no longer make the hormone erythropoietin. This hormone stimulates the bones to make red blood cells. The ideal level for hemoglobin should be around 10g/dl. Recent research has demonstrated that levels above 13g/dl may be harmful to patients on dialysis.

- **Option D:** Direct contact of the blood with the dialysis membrane during hemodialysis elicits a series of changes in blood cells. White blood cell count and total lymphocyte number are reduced, neutrocytes are stimulated and degranulate, platelet adhesiveness is enhanced.
- **Option E:** The BUN is a measurement of waste products in the blood. Normal values for a person with kidney failure vary according to protein intake. A client's values may range from 20-80 mg/dl when the labs are drawn prior to the dialysis treatment.

24. You are initiating a nursing care plan for a patient with pneumonia. Which intervention for cough enhancement should you delegate to a nursing assistant?

- A. Teaching the patient about the importance of adequate fluid intake and hydration.
- B. Assisting the patient to a sitting position with neck flexed, shoulders relaxed, and knees flexed.
- C. Reminding the patient to use an incentive spirometer every 1 to 2 hours while awake.
- D. Encouraging the patient to take a deep breath, hold it for 2 seconds, then cough two or three times in succession.

Correct Answer: C. Reminding the patient to use an incentive spirometer every 1 to 2 hours while awake

A nursing assistant can remind the patient to perform actions that are already part of the plan of care. The right person must be assigned to the right tasks and jobs under the right circumstances. The nurse who assigns the tasks and jobs must then communicate with and direct the person doing the task or job. The nurse supervises the person and determines whether or not the job was done in the correct, appropriate, safe and competent manner.

- **Option A:** Teaching patients about adequate fluid intake requires additional education and skill and is within the scope of practice of the RN. Among the tasks that cannot be legally and appropriately delegated to nonprofessional, unlicensed assistive nursing personnel, such as nursing assistants, patient care technicians, and personal care aides, include assessments, nursing diagnosis, establishing expected outcomes, evaluating care and any and all other tasks and aspects of care including but not limited to those that entail sterile technique, critical thinking, professional judgment and professional knowledge.
- **Option B:** Assisting the patient in the best position to facilitate coughing requires specialized knowledge and understanding that is beyond the scope of practice of the basic nursing assistant. However, an experienced nursing assistant could assist the patient with positioning after the nursing assistant and the patient had been taught the proper technique. The nursing assistant would still be under the supervision of the RN.
- **Option D:** Discussing and teaching require additional education and training. These actions are within the scope of practice of the RN. The client is the center of care. The needs of the client must be competently met with the knowledge, skills and abilities of the staff to meet these needs.

25. The nurse has just admitted a 35-year-old female client who has a serum B12 concentration of 800 pg/ml. Which of the following laboratory findings would cue the nurse to focus the client's history on the specific drug or alcohol abuse?

- A. Total bilirubin, 0.3 mg/dL

- B. Serum creatinine, 0.5 mg/dL
- C. Hemoglobin, 16 g/dL
- D. Folate, 1.5 ng/mL

Correct Answer: D. Folate, 1.5 ng/mL

The normal range of folic acid is 1.8 to 9 ng/mL, and the normal range of vitamin B12 is 200 to 900 pg/mL. A low folic acid level in the presence of a normal vitamin B12 level is indicative of a primary folic acid-deficiency anemia. Factors that affect the absorption of folic acid are drugs such as methotrexate, oral contraceptives, antiseizure drugs, and alcohol.

- **Option A:** The total bilirubin levels are normal. The liver is the major storage organ for folate, which undergoes several reactions before exit to both the biliary and systemic blood circulation. 5-MTHF crosses the basolateral membranes of hepatocytes after its transport through the intestine to the portal vein.
- **Option B:** The serum creatinine levels are normal. Urinary folate excretion is governed by renal tubular cell re-absorption by way of both FBP and RFC on proximal tubular cell brush border membranes. However, long term ethanol exposure in a micro pig model of ALD had no effect on folic acid transport by isolated renal tubular brush border membranes or on the expression of renal tubular RFC
- **Option C:** The hemoglobin values are within normal limits. Chronic alcoholics typically present with reduced vitamin B6 levels, which has been attributable to displacement of the vitamin from its protein carrier by acetaldehyde with subsequent degradation by phosphatases.

26. A 38-year-old male patient visits a healthcare clinic with complaints of a severe sore throat, nasal congestion, and a general feeling of malaise for the past three days. He mentions a history of recurrent upper respiratory infections. The nurse practitioner, suspecting a possible infection affecting the pharyngeal region, decides to systematically examine the divisions of the pharynx to identify the source of inflammation and discomfort. Turning to a nursing intern shadowing her for the day, she poses a quick question to test her understanding, "Given the patient's complaints and our need for a structured examination, can you tell me the correct sequence in which we should assess the divisions of the pharynx from superior to inferior?"

- A. Oropharynx, Nasopharynx, Laryngopharynx
- B. Nasopharynx, Oropharynx, Laryngopharynx
- C. Laryngopharynx, Nasopharynx, Oropharynx
- D. Nasopharynx, Laryngopharynx, Oropharynx

Correct Answer: B. Nasopharynx, Oropharynx, Laryngopharynx

The nasopharynx is the superior part of the pharynx. It is located posterior to the choanae and superior to the soft palate, which is an incomplete muscle and connective tissue partition separating the nasopharynx from the oropharynx. The oropharynx extends from the uvula to the epiglottis, and the oral cavity opens into the oropharynx. Thus, food, drink, and air all pass through the oropharynx. The laryngopharynx passes posterior to the larynx and extends from the tip of the epiglottis to the esophagus. Food and drink pass through the laryngopharynx to the esophagus.

27. Amid a hazardous material incident in the city, a young woman is rushed to the hospital following exposure to a potentially lethal toxin. Upon arrival, her vitals are stable, but the medical team is aware of the time-sensitive nature of the toxin's effect. The medical toxicologist recommends the administration of antiserum containing specific pre-formed immunoglobulins to neutralize the toxin. A medical student observing the case is then quizzed by his professor about the type of immunity being utilized in this clinical scenario to provide the patient with immediate, temporary protection against the toxin. Which term best describes this form of immunity?

- A. Active Natural Immunity
- B. Active Artificial Immunity
- C. Passive Natural Immunity
- D. Passive Artificial Immunity

Correct Answer: D. Passive Artificial Immunity

Passive artificial immunity is acquired through the administration of pre-formed antibodies or immunoglobulins to provide immediate protection against a specific pathogen or toxin. In this clinical scenario, the patient is being given an antiserum containing pre-formed immunoglobulins to neutralize the toxin, representing an application of passive artificial immunity.

- **Option A:** Active natural immunity arises when an individual encounters a live pathogen naturally, and the body's immune system responds by generating a specific immune response including the production of antibodies. This scenario does not describe active natural immunity as the patient is being given pre-formed antibodies rather than generating her own.
- **Option B:** Active artificial immunity is acquired through vaccination where an individual is exposed to a weakened or inactivated form of the pathogen, or a part of the pathogen, and the body responds by generating a specific immune response. This is not the form of immunity being utilized in this clinical scenario as the patient is not being vaccinated but is receiving pre-formed antibodies.
- **Option C:** Passive natural immunity refers to the transmission of antibodies from mother to infant, either through the placenta during pregnancy or through breast milk postnatally. This type of immunity is naturally acquired and temporary. This scenario does not describe passive natural immunity as the patient is receiving antibodies through medical intervention, not from a maternal source.

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

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

Correct Answer: D. Alcoholism

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

etiology and severity.

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

29. A 75-year-old client is admitted to the hospital with the diagnosis of dementia of the Alzheimer's type and depression. The symptom that is unrelated to depression would be?

- A. Apathetic response to the environment.
- B. "I don't know" answer to questions.
- C. Shallow of labile affect.
- D. Neglect of personal hygiene.

Correct Answer: C. Shallow of labile affect

With depression, there is little or no emotional involvement therefore little alteration in affect. The common features of all the depressive disorders are sadness, emptiness, or irritable mood, accompanied by somatic and cognitive changes that significantly affect the individual's capacity to function.

- **Option A:** Depression (major depressive disorder) is a common and serious medical illness that negatively affects how you feel, the way you think and how you act. Fortunately, it is also treatable. Depression causes feelings of sadness and/or a loss of interest in activities you once enjoyed. It can lead to a variety of emotional and physical problems and can decrease your ability to function at work and at home.
- **Option B:** A dysphoric mood state may be expressed by patients as sadness, heaviness, numbness, or sometimes irritability and mood swings. They often report a loss of interest or pleasure in their usual activities, difficulty concentrating, or loss of energy and motivation. Their thinking is often negative, frequently with feelings of worthlessness, hopelessness, or helplessness.
- **Option D:** Depression—also called "clinical depression" or a "depressive disorder"—is a mood disorder that causes distressing symptoms that affect how you feel, think, and handle daily activities, such as sleeping, eating, or working. To be diagnosed with depression, symptoms must be present most of the day, nearly every day for at least 2 weeks.

30. When planning home care for a client with hepatitis A, which preventive measure should be emphasized to protect the client's family?

- A. Keeping the client in complete isolation
- B. Using good sanitation with dishes and shared bathrooms
- C. Avoiding contact with blood-soiled clothing or dressing
- D. Forbidding the sharing of needles or syringes

Correct Answer: B. Using good sanitation with dishes and shared bathrooms.

Hepatitis A is transmitted through the fecal-oral route or from contaminated water or food. Measures to protect the family include good handwashing, personal hygiene and sanitation, and the use of standard precautions. According to the WHO, the most effective way to prevent HAV infection is to improve sanitation, food safety, and immunization practices.

- **Option A:** Complete isolation is not required. No specific treatment is needed for most patients with acute, uncomplicated HAV infection beyond supportive care. Complete recovery from symptoms may take several weeks to months.
- **Option C:** HAV is most commonly transmitted through the oral-fecal route via exposure to contaminated food, water, or close physical contact with an infectious person. According to the World Health Organization (WHO), infection rates in developed countries are low.
- **Option D:** Avoiding the sharing of needles or syringes are precautions needed to prevent transmission of hepatitis B. Globally, the rates of HAV have decreased due to improvements in public healthcare policies, sanitation, and education, but infection rates of other hepatitis viruses appear to be increasing.

31. A nurse evaluates the blood theophylline level of a client receiving aminophylline (theophylline) by intravenous infusion. The nurse would determine that a therapeutic blood level exists if any of the following were noted in the laboratory report?

- A. 5 mcg/mL
- B. 15 mcg/mL
- C. 25 mcg/mL
- D. 30 mcg/mL

Correct Answer: B. 15 mcg/mL

Therapeutic theophylline blood levels range from 10-20 mcg/mL. Patients can be administered IV theophylline for acute bronchospasm. Those who are not currently taking theophylline should be given a loading dose of 5 to 7 mg/kg intravenously, followed by a maintenance dose of 0.4 to 0.6 mg/kg per hour intravenously to maintain serum concentrations at 10 to 15 mg/L.

- **Option A:** In patients with cardiac decompensation, cor pulmonale, older patients or those on medications that are known to decrease theophylline clearance, the infusion rate of theophylline should not be increased above 17 mg per hour unless the patient remains symptomatic, their steady-state serum concentrations are consistently below 10 mcg/mL, and their serum concentrations are observable at 24-hour intervals.
- **Option C:** The serum theophylline concentrations require monitoring directly to avoid toxicity as the adverse effects of theophylline are related to its plasma concentration and have been observed when plasma concentrations exceed 20 mg/L.

- **Option D:** Serum concentration of theophylline should be measured to one expected half-life (approximately 4 hours in young children [ages 1 to 9 years], or around 8 hours in otherwise healthy adults, who do not smoke) after administering a continuous infusion, then checked every 12 to 24 hours to establish if any further adjustments are required, and then at 24-hour intervals for the remainder of the infusion.

32. A 40-year-old divorced mother of four school-age children is hospitalized with metastatic cancer of the ovary. The nurse finds the patient crying, and she tells the nurse that she does not know what will happen to her children when she dies. The most appropriate response by the nurse is

- A. "Why don't we talk about the options you have for the care of your children?"
- B. "Many patients with cancer live for a long time, so there is time to plan for your children."
- C. "For now you need to concentrate on getting well, not worry about your children."
- D. "Perhaps your ex-husband will take the children when you can't care for them."

Correct Answer: A. "Why don't we talk about the options you have for the care of your children?"

- **Option A:** This response expresses the nurse's willingness to listen and recognizes the patient's concern.
- **Options B and C:** The responses beginning "Many patients with cancer live for a long time" and "For now you need to concentrate on getting well" close off discussion of the topic and indicate that the nurse is uncomfortable with the topic. In addition, the patient with metastatic ovarian cancer may not have a long time to plan.
- **Option D:** Although it is possible that the patient's ex-husband will take the children, more assessment information is needed before making plans.

33. A client is recovering from debridement of the right leg. A nurse encourages the client to eat which food item that is naturally high in vitamin C to promote wound healing?

- A. Milk
- B. Chicken
- C. Banana
- D. Strawberries

Correct Answer: D. Strawberries

Citrus fruits and juices are especially high in vitamin C. Strawberries are an excellent source of vitamin C and manganese and also contain decent amounts of folate (vitamin B9) and potassium. Strawberries are very rich in antioxidants and plant compounds, which may have benefits for heart health and blood sugar control

- **Option A:** Dairy products such as milk are high in vitamin B. Milk and other dairy products pack about a third of the daily riboflavin requirement in just 1 cup (240 ml). Milk is also a good source of well-absorbed B12. Like other animal products, milk also is a good source of B12, supplying 18% of the RDI per 1-cup (240-ml) serving.

- **Option B:** Meats such as chicken are high in vitamin B. Chicken and turkey, especially the white meat portions, are high in B3 and B6. Poultry also supplies smaller amounts of riboflavin, pantothenic acid, and cobalamin. Most of the nutrients are in the meat, not the skin.
- **Option C:** Bananas are rich in potassium. Bananas are rich in the mineral potassium. Potassium helps maintain fluid levels in the body and regulates the movement of nutrients and waste products in and out of cells. One medium-sized banana contains 422 milligrams (mg) of potassium.

34. Dr. Hugo has prescribed sulfonylureas for Rebecca in the management of diabetes mellitus type 2. As a nurse, you know that the primary purpose of sulfonylureas, such as long-acting glyburide (Micronase), is to:

- A. Induce hypoglycemia by decreasing insulin sensitivity.
- B. Improve insulin sensitivity and decrease hyperglycemia.
- C. Stimulate the beta cells of the pancreas to secrete insulin.
- D. Decrease insulin sensitivity by enhancing glucose uptake.

Correct Answer: C. Stimulate the beta cells of the pancreas to secrete insulin.

Sulfonylureas such as glyburide are used only with patients who have some remaining pancreatic-beta cell function. These drugs stimulate insulin secretion, which reduces liver glucose output and increases cell uptake of glucose, enhancing the number of and sensitivity of cell receptor sites for interaction with insulin.

- **Option A:** Medications that reduce insulin resistance (insulin-sensitizing and antihyperglycemic effects) include metformin and thiazolidinediones. Metformin is a biguanide; it reduces hepatic glucose output and increases the uptake in the peripheral tissues (muscle and adipocytes).
- **Option B:** Thiazolidinediones (TZDs) are insulin sensitizers that act on intracellular metabolic pathways to enhance insulin action and increase insulin sensitivity in critical tissues. TZDs also increases adiponectin levels, decrease hepatic gluconeogenesis, and increase insulin-dependent glucose uptake in muscle and fat. Adiponectin, a cytokine secreted by fat tissue, increases insulin sensitivity, and fatty acid oxidation increases with TZD therapy.
- **Option D:** Metformin exerts its glucose-lowering effect by suppressing gluconeogenesis in the liver and facilitating glucose uptake and use by peripheral tissues. Decreased glucose uptake may result from suppressed insulin signaling or impaired glucose transporter (GLUT) 4 trafficking.

35. Which of the following is not an appropriate nursing intervention for a patient with hypercalcemia?

- A. Administering calcitonin
- B. Administering calcium gluconate
- C. Administering loop diuretics
- D. Encouraging ambulation

Correct Answer: B. Administering calcium gluconate

Calcium gluconate is used for replacement in deficiency states. Calcium gluconate, gluceptate, or chloride (IV) provides rapid treatment in acute calcium deficit, especially in the presence of tetany or

convulsions. Calcitonin and loop diuretics are used to lower serum calcium.

- **Option A:** Calcitonin can be administered subcutaneously but in most cases, the effects are mild and limited to a few days. Promotes movement of serum calcium into bones, temporarily reducing serum calcium levels, especially in the presence of the increased parathyroid hormone.
- **Option C:** Loop diuretics should be used with caution as even though they may enhance renal excretion, paradoxical hypercalcemia can occur due to bone resorption. Diuresis promotes renal excretion of calcium and reduces risks of fluid excess from an isotonic saline infusion.
- **Option D:** Hypercalcemia of immobilization can be prevented by encouraging activity as tolerated and adequate hydration. The specific cause of hypercalcemia needs to be identified, and treatment directed accordingly.

36. During the period of induction of labor, a client should be observed carefully for signs of:

- A. Severe pain
- B. Uterine tetany
- C. Hypoglycemia
- D. Umbilical cord prolapse

Correct Answer: B. Uterine tetany.

Uterine tetany could result from the use of oxytocin to induce labor. Because oxytocin promotes powerful uterine contractions, uterine tetany may occur. The oxytocin infusion must be stopped to prevent uterine rupture and fetal compromise.

- **Option A:** Women being offered induction of labor should be informed that induced labor is likely to be more painful than spontaneous labor. During the induction of labor, healthcare professionals should provide women with the pain relief appropriate for them and their pain.
- **Option C:** Since people with GDM and their babies are at increased risk of pregnancy complications, some care providers encourage women with GDM to plan an early birth (usually elective induction) at or near term instead of waiting for labor to start on its own.
- **Option D:** Umbilical cord prolapse is an uncommon but potentially fatal obstetric emergency. When this occurs during labor or delivery the prolapsed cord is compressed between the fetal presenting part and the cervix. This can result in a loss of oxygen to the fetus, and may even result in a stillbirth.

37. Before administering a client's morning dose of Lanoxin (digoxin), the nurse checks the apical pulse rate and finds a rate of 52. The appropriate nursing intervention is to:

- A. Record the pulse rate and administer the medication
- B. Administer the medication and monitor the heart rate
- C. Withhold the medication and notify the doctor
- D. Withhold the medication until the heart rate increases

Correct Answer: C. Withhold the medication and notify the doctor

- Option C: Digoxin may further slow the heart rate therefore the medication should be withheld and the doctor should be notified.
- Options A, B, and D: They do not provide for the client's safety.

38. Which of the following chronic complications is associated with diabetes?

- A. Dizziness, dyspnea on exertion, and coronary artery disease
- B. Retinopathy, neuropathy, and coronary artery disease
- C. Leg ulcers, cerebral ischemic events, and pulmonary infarcts
- D. Fatigue, nausea, vomiting, muscle weakness, and cardiac arrhythmias

Correct Answer: B. Retinopathy, neuropathy, and coronary artery disease

These are all chronic complications of diabetes. Regardless of the specific type of diabetes, complications involve microvascular, macrovascular, and neuropathic issues. Microvascular and macrovascular complications vary according to the degree and the duration of poorly controlled diabetes and include nephropathy, retinopathy, neuropathy, and ASCVD events, especially if it is associated with other comorbidities like dyslipidemia and hypertension.

- **Option A:** Dizziness, dyspnea on exertion, and coronary artery disease are symptoms of aortic valve stenosis. The acquired aortic stenosis manifests with exertional dyspnea, syncope, angina, and, ultimately, heart failure. Angina results from the combination of the need for increased oxygen in hypertrophied myocardium and reduction of oxygen delivery secondary to the excessive compression of coronary vessels.
- **Option C:** Leg ulcers, cerebral ischemic events, and pulmonary infarcts are complications of sickle cell anemia. Approximately 2.5% of patients with SCA above 10 years of age have leg ulcers. Chronic hemolysis leads to pulmonary vascular changes classified under WHO group 1 in up to 10% of all SCA patients. PAH in SCA can also occur due to left heart dysfunction (Group II), chronic lung disease from SCA (Group III), chronic thromboembolism (Group IV), or extrathoracic causes (Group V).
- **Option D:** Fatigue, nausea, vomiting, muscle weakness, and cardiac arrhythmias are symptoms of hyperparathyroidism. Physical examination findings are usually noncontributory. Examination may reveal muscle weakness and depression. A palpable neck mass is not usually expected with hyperparathyroidism, although in rare cases, it may indicate parathyroid cancer.

39. A nurse is providing instruction for an obstetrical patient to perform a daily fetal movement count (DFMC). Which instructions could be included in the plan of care? Select all that apply.

- A. The fetal alarm signal is reached when there are no fetal movements noted for 5 hours.
- B. The patient can monitor fetal activity once daily for a 60-minute period and note activity.
- C. Monitor fetal activity two times a day either after meals or before bed for a period of 2 hours or until 10 fetal movements are noted.
- D. Count all fetal movements in a 12-hour period daily until 10 fetal movements are noted.

Correct Answer: B, C, & D

The fetal alarm signal is reached when no fetal movements are noted for a period of 12 hours. Fetal movement is one show of a baby's health in the womb. Each woman should learn the normal pattern and number of movements for her own baby. A change in the normal pattern or number of fetal movements may mean the baby is under stress. And it's not normal for a baby to stop moving with the start of labor.

- **Option A:** In general, the woman should feel 10 movements in 2 hours. Sit or lie on the side in a comfortable spot during a time of day when the baby is usually active. This may be after eating or moving around. If the woman lies down, lie on the left side, since the baby will have better circulation.

40. Which intervention should the nurse include as a nonpharmacologic pain-relief intervention for chronic pain?

- A. Referring the client for hypnosis.
- B. Administering pain medication as prescribed.
- C. Removing all glaring lights and excessive noise.
- D. Using transcutaneous electric nerve stimulation.

Correct Answer: D. Using transcutaneous electric nerve stimulation.

Nonpharmacologic pain relief interventions include cutaneous stimulation, back rubs, biofeedback, acupuncture, transcutaneous electric nerve stimulation, and more. Transcutaneous electrical nerve stimulation (TENS) is a therapy that uses low voltage electrical current to provide pain relief. A TENS unit consists of a battery-powered device that delivers electrical impulses through electrodes placed on the surface of your skin. The electrodes are placed at or near nerves where the pain is located or at trigger points.

- **Option A:** Hypnosis is considered an alternative therapy. Hypnosis is a set of techniques designed to enhance concentration, minimize one's usual distractions, and heighten responsiveness to suggestions to alter one's thoughts, feelings, behavior, or physiological state.
- **Option B:** Medications are pharmacologic measures. A wide range of drugs are used to manage pain resulting from inflammation in response to tissue damage, chemical agents/pathogens (nociceptive pain), or nerve damage (neuropathic pain).
- **Option C:** Although removing glaring lights and excessive noise help to reduce or remove noxious stimuli, it is not specific to pain relief. A noxious stimulus is actually, or potentially, damaging to tissue and liable to cause pain, but does not invariably do so. Some noxious stimuli, particularly in the viscera, do not cause nociceptive responses.

41. What is the first intervention for a client experiencing MI?

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

Correct Answer: B. Administer oxygen

Administering supplemental oxygen to the client is the first priority of care. The myocardium is deprived of oxygen during an infarction, so additional oxygen is administered to assist in oxygenation and prevent further damage. Supplemental oxygen is indicated in patients with hypoxemia ($\text{SaO}_2 < 90\%$ or $\text{PaO}_2 < 60\text{mm Hg}$).

- **Option A:** The chest pain due to myocardial infarction is associated with sympathetic arousal, which causes vasoconstriction and increased workload for the ischemic heart. Intravenous opioids (e.g., morphine) are the analgesics most commonly used for pain relief (Class IIa).
- **Option C:** Nitro is also used to treat MI, but they're more commonly administered after the oxygen. Intravenous nitrates are more effective than sublingual nitrates with regard to symptom relief and regression of ST depression (NSTEMI). The dose is titrated upward until symptoms are relieved, blood pressure is normalized in hypertensive patients, or side effects such as a headache and hypotension are noted.
- **Option D:** An ECG is the most common diagnostic tool used to evaluate MI. The resting 12 lead ECG is the first-line diagnostic tool for the diagnosis of acute coronary syndrome (ACS). It should be obtained within 10 minutes of the patient's arrival in the emergency department. Acute MI is often associated with dynamic changes in the ECG waveform.

42. Which of the following arterial blood gas (ABG) values indicates uncompensated metabolic alkalosis?

- A. pH 7.48, PaCO_2 42, HCO_3 30
- B. pH 7.48, PaCO_2 46, HCO_3 30
- C. pH 7.48, PaCO_2 34, HCO_3 20
- D. pH 7.48, PaCO_2 34, HCO_3 26

Correct Answer: A. pH 7.48, PaCO_2 42, HCO_3 30

Uncompensated metabolic alkalosis is indicated by ABG values of pH 7.48, PaCO_2 42, and HCO_3 30. Normal human physiological pH is 7.35 to 7.45. A decrease in pH below this range is acidosis, an increase over this range is alkalosis. Metabolic alkalosis is defined as a disease state where the body's pH is elevated to greater than 7.45 secondary to some metabolic process.

- **Option B:** These values indicate metabolic alkalosis, partially compensated. HCO_3 functions as an alkalotic substance. CO_2 functions as an acidic substance. Therefore, increases in HCO_3 or decreases in CO_2 will make blood more alkalotic. The opposite is also true where decreases in HCO_3 or an increase in CO_2 will make blood more acidic. CO_2 levels are physiologically regulated by the pulmonary system through respiration, whereas the HCO_3 levels are regulated through the renal system with reabsorption rates.
- **Option C:** These values indicate respiratory alkalosis, partially compensated. 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 D:** These values indicate respiratory alkalosis, uncompensated. If the pH is not within or close to the normal ranges, then a partial compensation exists. If the pH is back within normal ranges then a full compensation has occurred. A non-compensated or uncompensated abnormality usually represents an acute change occurring in the body.

43. The clinic nurse is preparing to test the visual acuity of a client using a Snellen chart. Which of the following identifies the accurate procedure for this visual acuity test?

- A. Both eyes are assessed together, followed by the assessment of the right and then the left eye.
- B. The right eye is tested followed by the left eye, and then both eyes are tested.
- C. The client is asked to stand at a distance of 40ft. from the chart and is asked to read the largest line on the chart.
- D. The client is asked to stand at a distance of 40ft from the chart and to read the line that can be read 200 ft away by an individual with unimpaired vision.

Correct Answer: B. The right eye is tested followed by the left eye, and then both eyes are tested.

Visual acuity is assessed in one eye at a time, and then in both eyes together with the client comfortably standing or sitting. The right eye is tested with the left eye covered; then the left eye is tested with the right eye covered. Both eyes then are tested together. Visual acuity is measured with or without corrective lenses and the client stands at a distance of 20ft. from the chart. A visual acuity test is only one part of a comprehensive ophthalmologic examination. The goal of the visual acuity test is to determine clarity or sharpness of vision.

- **Option A:** Cover the patient's eye with their hand or an occluder card. Some testers prefer to test the eyes in the same order on all patients. An alternative is to test the eye with worse vision first to reduce remembered letters. The second eye can also read the letters backward to reduce remembered letters.
- **Option C:** Position the patient in a well-lit area so that they are a standard distance from the chart. The testing distance is typically 20 feet (6 m), but this may vary. In smaller spaces, mirrors can be used to achieve the required distance. Additionally, a near Snellen chart may be used at 14 inches in some cases, which would require reading glasses if applicable.
- **Option D:** Move the patient closer to the chart if they are unable to read to the top line, the new distance from the chart becomes the numerator in a fraction reporting system. For example, if able to read the top line at 10 feet, the patient's vision would be represented as 10/200.

44. She knows that performance appraisal consists of all the following activities except:

- A. Setting specific standards and activities for individual performance.
- B. Using agency standards as a guide.
- C. Determine areas of strength and weaknesses.
- D. Focusing activity on the correction of identified behavior.

Correct Answer: D. Focusing activity on the correction of identified behavior.

Performance appraisal deals with both positive and negative performance; is not meant to be a fault-finding activity. A performance appraisal is a regular review of an employee's job performance and overall contribution to a company. Also known as an annual review, performance review or evaluation, or employee appraisal, a performance appraisal evaluates an employee's skills, achievements, and growth—or lack thereof.

- **Option A:** Performance appraisals provide a way for companies to determine which employees have contributed the most to the company's growth so companies can reward their top-performing employees accordingly.
- **Option B:** Companies use performance appraisals to determine which employees have contributed the most to the company's growth, review progress, and reward high-achieving workers.
- **Option C:** Performance appraisals are used to review the job performance of an employee over some period of time. These reviews are used to highlight both strengths and weaknesses in order to improve future performance.

45. The following are considered functions of the Urinary System, EXCEPT:

- A. Vitamin D synthesis
- B. Regulation of red blood cell synthesis
- C. Excretion
- D. Absorption of digested molecules
- E. Regulation of blood volume and pressure

Correct Answer: D. Absorption of digested molecules

This is a function of the digestive system. The small molecules that result from digestion are absorbed through the walls of the intestine for use in the body. Digestion is the process of mechanically and enzymatically breaking down food into substances for absorption into the bloodstream.

- **Option A:** This is a function of the urinary system. The kidneys play an important role in controlling blood levels of Ca^{2+} by regulating the synthesis of vitamin D. The kidneys have an important role in making vitamin D useful to the body. The kidneys convert vitamin D from supplements or the sun to the active form of vitamin D that is needed by the body. With chronic kidney disease, low vitamin D levels can be found, sometimes even severely low levels.
- **Option B:** This is a function of the urinary system. The kidneys secrete a hormone, erythropoietin, which regulates the synthesis of red blood cells in the bone marrow. The kidney produces 85 percent of circulating erythropoietin; the liver, the remainder. If you move to a higher altitude, the partial pressure of oxygen is lower, meaning there is less pressure to push oxygen across the alveolar membrane and into the red blood cell.
- **Option C:** This is a function of the urinary system. The kidneys are the major excretory organs of the body. They remove waste products, many of which are toxic, from the blood. The urinary system includes the kidneys, ureters, bladder and urethra. This system filters the blood, removing waste and excess water. This waste becomes urine.
- **Option E:** This is a function of the urinary system. The kidneys play a major role in controlling the extracellular fluid volume in the body by producing either a large volume of dilute urine or a small volume of concentrated urine. Due to osmosis, water follows where Na^+ leads. Much of the water the kidneys recover from the forming urine follows the reabsorption of Na^+ . Antidiuretic hormone stimulation of aquaporin channels allows for regulation of water recovery in the collecting ducts. It is through these means that blood volume and osmolarity are regulated by the kidneys.

46. Nina, an oncology nurse educator, is speaking to a women's group about breast cancer. Questions and comments from the audience reveal a

misunderstanding of some aspects of the disease. Various members of the audience have made all of the following statements. Which one is accurate?

- A. Breast cancer requires a mastectomy
- B. Men can develop breast cancer
- C. Breast cancer is the leading killer of women of childbearing age
- D. Mammography is the most reliable method for detecting breast cancer

Correct Answer: B. Men can develop breast cancer

- **Option B:** Men can develop breast cancer, although they seldom do. It is common among older men.
- **Option A:** A mastectomy may not be required if the tumor is small, confined, and in an early stage.
- **Option C:** Lung cancer causes more deaths than breast cancer in women of all ages.
- **Option D:** The most reliable method for detecting breast cancer is monthly self-examination, not mammography.

47. The nurse is preparing to give bolus enteral feedings via a nasogastric tube to a comatose client. Which of the following actions is an inappropriate practice by the nurse?

- A. If bowel sounds are absent, hold the feeding and notify the physician.
- B. Assess tube placement by aspirating gastric content and check the PH level.
- C. Warm the feeding to room temperature to prevent the occurrence of diarrhea and cramps.
- D. Elevate the head of the bed to 45 degrees and maintain for 30 minutes after installation of feeding.

Correct Answer: D. Elevate the head of the bed to 45 degrees and maintain for 30 minutes after instillation of feeding.

If the client is comatose, place in a high-Fowler's which is at a 90-degree level. Position client upright or in full Fowler's position if possible. Place a clean towel over the client's chest. Full Fowler's position assists the client to swallow, for optimal neck-stomach alignment and promotes peristalsis.

- **Option A:** Inject 30 mL of air into the stomach and listen with the stethoscope for the "whoosh" of air into the stomach. The small diameter of some NG tubes may make it difficult to hear air entering the stomach. It is very important to ensure that the NG tube is in its correct place within the stomach because, if by accident the NG is within the trachea, serious complications in relation to the lungs would appear.
- **Option B:** Stomach aspirate will appear cloudy, green, tan, off-white, bloody, or brown. It is not always visually possible to distinguish between the stomach and respiratory aspirates. Measuring the pH of stomach aspirate is considered more accurate than visual inspection. Stomach aspirate generally has a pH range of 0 to 4, commonly less than 4.
- **Option C:** For powdered formula, mix according to the instructions on the package. Prepare just enough for the next 24 hours and refrigerate unused formula. Allow the formula to reach room temperature before using. Formula loses its nutritional value and can be contaminated if kept for more than 24 hours. Cold formulas can cause abdominal discomfort.

48. For a patient with hypomagnesemia, which of the following medications may become toxic?

- A. Lasix
- B. Digoxin
- C. Calcium gluconate
- D. CAPD

Correct Answer: B. Digoxin

In hypomagnesemia, a patient on digoxin is likely to develop digitalis toxicity. Magnesium deficiency was the most frequently identified significant electrolyte disturbance in relation to digoxin toxicity. In the presence of magnesium deficiency digoxin toxicity developed at relatively low serum digoxin concentrations. Neither A nor C has toxicity as a side effect.

- **Option A:** Loop diuretics (including furosemide, bumetanide, and ethacrynic acid), produce large increases in magnesium excretion through the inhibition of the electrical gradient necessary for magnesium reabsorption in the TAL. Long-term thiazide diuretic therapy also may cause magnesium deficiency, through enhanced magnesium excretion and, specifically, reduced renal expression levels of the epithelial magnesium channel TRPM6.
- **Option C:** Calcium gluconate may reverse many of the magnesium-induced changes, including respiratory depression. Administration of IV furosemide can increase magnesium excretion when renal function is adequate; volume status should be maintained.
- **Option D:** CAPD is not a medication. CAPD, (Continuous Ambulatory Peritoneal Dialysis), is a way of artificially removing the waste fluid and poisons from the body by using the abdominal membrane as a filter. The treatment involves putting special dialysis fluid into this cavity, usually four times per day.

49. Which of the following infants is least probable to develop sudden infant death syndrome (SIDS)?

- A. Baby Angela who was premature
- B. A sibling of Baby Angie who died of SIDS
- C. Baby Gabriel with prenatal drug exposure
- D. Baby Gabby who sleeps on his back

Correct Answer: D. Baby Gabby who sleeps on his back

Infants who sleep on their back are least likely to develop SIDS. However, SIDS has been associated with infants who sleep on their abdomens. The incidence of SIDS declined by more than 50 percent in the United States after physicians began to promote "On the back to sleep." After the American Academy of Pediatrics (AAP) issued a recommendation for supine sleeping in 1992, the incidence of SIDS decreased.

- **Option A:** Several studies identify the prone sleeping position, sleeping on soft surfaces, sleeping with soft objects, co-sleeping with a parent/parents, maternal smoking during pregnancy, maternal age less than 20 years, late/no prenatal care, preterm birth, low birth weight, lack of breastfeeding, and overheating as risk factors in SIDS deaths.

- **Option B:** Siblings of SIDS infants have an increased risk of dying as a result of SIDS. Siblings are 5-6 times more likely to die from SIDS than the general population. After investigation, not all sibling deaths can be attributed to SIDS. Sibling deaths were found to be attributable to inborn errors of metabolism, abuse, and malnourishment.
- **Option C:** Maternal drug use and exposure to smoke from tobacco are associated with a higher incidence of SIDS. Exposure to secondhand smoke is an independent risk factor for SIDS, and the risk increases with an increasing amount of exposure. Maternal drug use is associated with a higher incidence of SIDS, although it is not clear whether this is a direct or an indirect effect.

50. Mrs. Bagapayo who had abdominal surgery 3 days earlier complains of sharp, throbbing abdominal pain that ranks 8 on a scale of 1 (no pain) to 10 (worst pain). Which intervention should the nurse implement first?

- A. Assessing the client to rule out possible complications secondary to surgery.
- B. Checking the client's chart to determine when pain medication was last administered.
- C. Explaining to the client that the pain should not be this severe 3 days postoperatively.
- D. Obtaining an order for a stronger pain medication because the client's pain has increased.

Correct Answer: A. Assessing the client to rule out possible complications secondary to surgery.

The nurse's immediate action should be to assess the client in an attempt to exclude possible complications that may be causing the client's complaints. The health care provider ordered the pain medication for routine postoperative pain that is expected after abdominal surgery, not for such complications as hemorrhage, infection, or dehiscence. The nurse should never administer pain medication without assessing the client first.

- **Option B:** Checking the client's chart is appropriate after the nurse determines that the client is not experiencing complications from surgery. It is essential to assist patients to express as factually as possible (i.e., without the effect of mood, emotion, or anxiety) the effect of pain relief measures. Inconsistencies between behavior or appearance and what the patient says about pain relief (or lack of it) may be more a reflection of other methods the patient is using to cope with the pain rather than pain relief itself.
- **Option C:** Pain is subjective, and each person has his own level of pain tolerance. The nurse must always believe the client's complaint of pain. Nurses have the duty to ask their clients about their pain and believe their reports of pain. Challenging or undermining their pain reports results in an unhealthy therapeutic relationship that may hinder pain management and deteriorate rapport.
- **Option D:** Obtaining an order for a strong medication may be appropriate after the nurse assesses the client and checks the chart to see whether the current analgesic is ineffective. The World Health Organization (WHO) in 1986 published guidelines in the logical usage of analgesics to treat cancer using a three-step ladder approach – also known as the analgesic ladder. The analgesic ladder focuses on aligning the proper analgesics with the intensity of pain.

51. What type of milk is present in the breasts 7 to 10 days PP?

- A. Colostrum
- B. Transitional milk

C. Mature milk

D. Hind milk

Correct Answer: B. Transitional milk

Transitional milk comes after colostrum and usually lasts until 2 weeks PP. When breastfeeding mothers talk about their milk coming in, they are referring to the onset of production of transitional milk, the creamy milk that immediately follows colostrum. Transitional milk is produced anywhere from about two to five days after birth until ten to fourteen days after birth.

- **Option A:** Alveolar cells of the breast begin to secrete colostrum in the twelfth to sixteenth week of pregnancy. This is called lactogenesis I. Colostrum is a thick, yellowish-white fluid which can be expressed from the breast by the third trimester. Milk secretion is suppressed during pregnancy by estrogen and progesterone. Colostrum has more protein and fewer carbohydrates and fat than mature breast milk. Colostrum is rich in secretory immunoglobulin A (IgA), which helps to protect the infant from infection. Colostrum also helps to establish a normal gut microbiome in the infant. The bowel is considered sterile at birth.
- **Option C:** The breast milk starts becoming mature after around two weeks, but it won't be fully mature milk until the baby's about four weeks old. From now on its composition will be broadly stable – it certainly won't go through dramatic changes like in the first month. Soon after it reaches maturity, the milk starts to contain higher quantities of some components that protect the baby against bacterial and viral infections. It's probably no coincidence that this stage of breast milk production coincides with the time she starts grabbing objects and putting them in her mouth.
- **Option D:** Hindmilk is the high-fat, high-calorie breast milk that the baby gets toward the end of a feeding. It's richer, thicker, and creamier than foremilk, the breast milk that the baby gets when they first start to breastfeed. The color of hindmilk is creamy white. Hindmilk satisfies the baby's hunger and makes the baby feel full and sleepy. It also helps the baby feel fuller longer.

52. Which of the following conditions most commonly results in CAD?

A. Atherosclerosis

B. DM

C. MI

D. Renal failure

Correct Answer: A. Atherosclerosis

Atherosclerosis, or plaque formation, is the leading cause of CAD.

- **Option B:** DM is a risk factor for CAD but isn't the most common cause. Near-normal glycemic control for a median of 3.5 to 5 years does not reduce cardiovascular events. Thus, the general goal of HbA1c <7% appears reasonable for the majority of patients. Iatrogenic hypoglycemia is the limiting factor in the glycemic management of diabetes and is an independent cause of excess morbidity and mortality.
- **Option D:** Renal failure doesn't cause CAD, but the two conditions are related. Chronic kidney disease (CKD) accelerates the course of coronary artery disease, independent of conventional cardiac risk factors. In addition, CKD has been shown to confer inferior clinical outcomes following successful coronary revascularisation, which may be offset by arterial grafting.
- **Option C:** Myocardial infarction is commonly a result of CAD. Myocardial infarction occurs when a coronary artery is so severely blocked that there is a significant reduction or break in the blood

supply, causing damage or death to a portion of the myocardium (heart muscle).

53. What is the term used to describe an enlargement of the heart muscle?

- A. Cardiomegaly
- B. Cardiomyopathy
- C. Myocarditis
- D. Pericarditis

Correct Answer: A. Cardiomegaly

Cardiomegaly denotes an enlarged heart muscle. The most critical pathophysiological changes leading to cardiomegaly include dilated hypertrophy, fibrosis, and contractile malfunction. Contractile dysfunction and abnormal myocardial remodeling can lead to hypertrophic cardiomyopathy or dilated cardiomyopathy. Mechanical stretching, circulating neurohormones, and oxidative stress are significant stimuli for the signal transduction of inflammatory cytokines and MAP kinase in cardiomyocytes. Signal transduction leads to changes in structural proteins and proteins that regulate excitation-contraction. Dilated cardiomyopathy mutations result in a reduced force of the sarcomere contraction and a reduction in sarcomere content. Hypertrophic cardiomyopathy mutations result in a molecular phenotype of hyperdynamic contractility, poor relaxation, and increased energy consumption.

- **Option B:** Cardiomyopathy is a heart muscle disease of unknown origin. In cardiomyopathy, the heart muscle becomes enlarged, thick, or rigid. In rare cases, the muscle tissue in the heart is replaced with scar tissue.
- **Option C:** Myocarditis refers to inflammation of the heart muscle. It is an inflammatory disease of the myocardium with a wide range of clinical presentations, from subtle to devastating.
- **Option D:** Pericarditis is an inflammation of the pericardium. Pericarditis is usually acute – it develops suddenly and may last up to several months. The condition usually clears up after 3 months, but sometimes attacks can come and go for years. When a client has pericarditis, the membrane around the heart is red and swollen, like the skin around a cut that becomes inflamed. Sometimes there is extra fluid in the space between the pericardial layers, which is called pericardial effusion.

54. A 65-year-old man, who is a retired professional dancer, has been admitted to the orthopedic unit for spinal stenosis surgery. He lives alone in a two-story house and is concerned about his mobility and self-care post-surgery. Given his unique living situation and profession, which has contributed to his current condition, when should the nurse initiate discharge training and planning to ensure a smooth transition and recovery for this patient?

- A. Following surgery
- B. Upon admission
- C. Within 48 hours of discharge
- D. Preoperative discussion

Correct Answer: B. Upon admission

Discharge planning is a critical aspect of patient care, especially for surgeries that can impact mobility and daily activities. Starting discharge planning upon admission allows for comprehensive preparation, addressing any concerns the patient might have, and ensuring that the patient understands the post-operative care requirements. This proactive approach also provides ample time to arrange for any necessary resources or support the patient might need post-discharge.

55. During postprandial monitoring, a female client with bulimia nervosa tells the nurse, “You can sit with me, but you’re just wasting your time. After you had sat with me yesterday, I was still able to purge. Today, my goal is to do it twice.” What is the nurse’s best response?

- A. “I trust you not to purge.”
- B. “How are you purging and when do you do it?”
- C. “Don’t worry. I won’t allow you to purge today.”
- D. “I know it’s important for you to feel in control, but I’ll monitor you for 90 minutes after you eat.”

Correct Answer: D. “I know it’s important for you to feel in control, but I’ll monitor you for 90 minutes after you eat.”

This response acknowledges that the client is testing limits and that the nurse is setting them by performing postprandial monitoring to prevent self-induced emesis. Clients with bulimia nervosa need to feel in control of the diet because they feel they lack control over all other aspects of their lives. Since recovery involves patients having to face their deepest, most painful, and traumatic thoughts and emotions, supporting them as they go through treatment can be emotionally challenging for nurses. This emotional challenge can be exacerbated when the patient has also been diagnosed with Obsessive-Compulsive Disorder (OCD), depression, or substance abuse, as these may require more intensive one-to-one support.

- **Option A:** Because their therapeutic relationships with caregivers are less important than their need to purge, they don’t fear betraying the nurse’s trust by engaging in the activity. They commonly plot to purge and rarely share their secrets about it. As this might take nurses out of their comfort zone or clinical remit, worksheets are available for nurses to use in efforts to help patients challenge and overcome their obsessive and ritualistic behaviors and to adopt a more flexible perspective in day-to-day life.⁶ These can be supplemented by nurses familiarising themselves with the detailed guidelines and resources offered by NICE.
- **Option B:** Learning motivational interviewing techniques can help facilitate communication with those who might be resistant to discussing topics related to food, weight, and recovery. Such techniques can help develop the skills of empathic understanding, rolling with resistance, and gently assisting patients to make their own, autonomous decision to work towards recovery. Often, the aim is to help patients learn new and healthier ways of coping, and nurses can achieve this through a mix of emotional support, education, and signposting.
- **Option C:** An authoritarian or challenging response may trigger a power struggle between the nurse and client. Assisting patients to remain strong and adhere to treatment requires nurses to develop a relationship that is caring, empathetic and trusting, and in line with the person-centered approach to care. Patients affected by eating disorders require individualized support to better understand their condition, rediscover their identity, learn to accept themselves, enhance a positive body image and sense of self-worth, and achieve a balance in their lives so that they can move towards better health and wellbeing.

56. A patient with a diagnosis of major depression who has attempted suicide says to the nurse, "I should have died! I've always been a failure. Nothing ever goes right for me." Which response demonstrates therapeutic communication?

- A. "You have everything to live for."
- B. "Why do you see yourself as a failure?"
- C. "Feeling like this is all part of being depressed."
- D. "You've been feeling like a failure for a while?"

Correct Answer: D. "You've been feeling like a failure for a while?"

Responding to the feelings expressed by a patient is an effective therapeutic communication technique. The correct option is an example of the use of restating. It's frequently useful for nurses to summarize what patients have said after the fact. This demonstrates to patients that the nurse was listening and allows the nurse to document conversations. Ending a summary with a phrase like "Does that sound correct?" gives patients explicit permission to make corrections if they're necessary.

- **Option A:** Some people confuse empathizing with sympathizing. To establish a good nurse-patient relationship, the nurse should use empathy, not sympathy. Sympathy is defined as the feelings of concern or compassion one shows for another. By sympathizing, the nurse projects his or her own concerns to the client, thus, inhibiting the client's expression of feelings.
- **Option B:** This option blocks communication because it minimizes the patient's experience and does not facilitate exploration of the patient's expressed feelings. In addition, the use of the word "why" is nontherapeutic.
- **Option C:** Internal validation is a non-therapeutic communication technique. This refers to making an assumption about the meaning of someone else's behavior that is not validated by the other person (jumping into conclusion).

57. The following are important considerations to teach the woman who is on a low dose (mini-pill) oral contraceptive except:

- A. The pill must be taken every day at the same time.
- B. If the woman fails to take a pill in one day, she must take 2 pills for added protection.
- C. If the woman fails to take a pill in one day, she needs to take another temporary method until she has consumed the whole pack.
- D. If she is breastfeeding, she should discontinue using mini-pill and use the progestin-only type.

Correct Answer: B. If the woman fails to take a pill in one day, she must take 2 pills for added protection.

If the woman fails to take her usual pill for the day, taking a double dose does not give additional protection. What she needs to do is to continue taking the pills until the pack is consumed and use at the time another temporary method to ensure that no pregnancy will occur. When a new pack is started, she can already discontinue using the second temporary method she employed.

- **Option A:** Combined oral contraceptive pills are to be taken daily at approximately the same time each day. Avoid taking them greater than 24 hours apart as this could affect efficacy.
- **Option C:** If you miss a tablet just take the missed tablet as soon as you remember and the next tablet at the usual time (taking 2 tablets in 1 day). If you miss 2 tablets in a row in the first or second

week then take 2 tablets the day you remember and 2 tablets the next day, then resume 1 per day. Use another form of contraception until you begin a new cycle.

- **Option D:** Progestin-only oral contraceptives, or “The Mini-Pill,” contain only a progestin (a female hormone). The method, when used daily, is highly effective for breastfeeding women. This method of contraception has a slightly higher failure rate than oral contraceptives (OCs) containing both estrogen and progestin.

58. You are supervising a nursing student who is providing care for a patient with thoracotomy with a chest tube. What findings would you clearly instruct the nursing student to notify you about immediately?

- A. Chest tube drainage of 10 to 15 mL/hr.
- B. Continuous bubbling in the water seal chamber.
- C. Complaints of pain at the chest tube site.
- D. Chest tube dressing dated yesterday.

Correct Answer: B. Continuous bubbling in the water seal chamber

Continuous bubbling indicates an air leak that must be identified. With the physician’s order you can apply a padded clamp to the drainage tubing close to the occlusive dressing. If the bubbling stops, the air leak may be at the chest tube insertion, which will require you to notify the physician. If the air bubbling does not stop when you apply the padded clamp, the air leak is between the clamp and the drainage system, and you must assess the system carefully to locate the leak.

- **Option A:** Chest tube drainage of 10 to 15 mL/hr is acceptable. Alert physician if drainage greater than 100 mL per hour in an adult and 3 mL/Kg/hour in a 3 hour period or 5 to 10 mL/Kg in any 1 hour period in pediatric patients.
- **Option C:** The patient’s complaints of pain need to be assessed and treated. This is important but is not as urgent as investigating a chest tube leak. Severe pain during chest drain therapy significantly influences the well being of the patient and leads to severe pathophysiological disorders. Early mobilization, sufficient coughing to mobilize secretions, and effective deep breathing are only possible with adequate pain management.
- **Option D:** Chest tube dressings are not changed daily but may be reinforced. In adults, chest tube dressing should be changed every other day and prn. In pediatric patients, if it is an uncomplicated chest tube insertion site, the dressing should be left as is until it is soiled or lifting. Changed ONLY when necessary and with a physician present.

59. Late deceleration patterns are noted when assessing the monitor tracing of a woman whose labor is being induced with an infusion of Pitocin. The woman is in a side-lying position, and her vital signs are stable and fall within a normal range. Contractions are intense, last 90 seconds, and occur every 1 1/2 to 2 minutes. The nurse’s immediate action would be to:

- A. Change the woman’s position
- B. Stop the Pitocin
- C. Elevate the woman’s legs

D. Administer oxygen via a tight mask at 8 to 10 liters/minute

Correct Answer: B. Stop the Pitocin

Late deceleration patterns noted are most likely related to alteration in uteroplacental perfusion associated with the strong contractions described. The immediate action would be to stop the Pitocin infusion since Pitocin is an oxytocin which stimulates the uterus to contract.

- **Option A:** The woman is already in an appropriate position for uteroplacental perfusion. A late deceleration is a symmetric fall in the fetal heart rate, beginning at or after the peak of the uterine contraction and returning to baseline only after the contraction has ended
- **Option C:** Elevation of her legs would be appropriate if hypotension were present. Regardless of the depth of the deceleration, all late decelerations are considered potentially ominous. A pattern of persistent late decelerations is nonreassuring, and further evaluation of the fetal pH is indicated.
- **Option D:** Oxygen is appropriate but not the immediate action. The occurrence of a late or worsening variable deceleration pattern in the presence of normal variability generally means that the fetal stress is either of a mild degree or of recent origin; however, this pattern is considered nonreassuring.

60. A client with suspected gastric cancer undergoes an endoscopy of the stomach. Which of the following assessments made after the procedure would indicate the development of a potential complication?

- A. The client complains of a sore throat.
- B. The client displays signs of sedation.
- C. The client experiences a sudden increase in temperature.
- D. The client demonstrates a lack of appetite.

Correct Answer: C. The client experiences a sudden increase in temperature.

The most likely complication of an endoscopic procedure is perforation. A sudden temperature spike within 1 to 2 hours after the procedure is indicative of perforation and should be reported immediately to the physician. This most commonly occurs when additional procedures are carried out at the same time. The infections are normally minor and treatable with a course of antibiotics.

- **Option A:** A sore throat is to be anticipated after an endoscopy. Risks of endoscopy may include persistent pain in the area of the endoscopy or a numb throat for a few hours due to the use of a local anesthetic.
- **Option B:** Clients are given sedatives during the procedure, so it is expected that they will display signs of sedation after the procedure is completed. Risks of endoscopy may include over-sedation, although sedation is not always necessary.
- **Option D:** A lack of appetite could be the result of many factors, including the disease process. There may be some soreness. With this type of endoscopy, there may be bloating and soreness, but these usually resolve quickly.

61. While caring for a client with cervical cancer, the nurse notes that the radioactive implant is lying in the bed. The nurse should:

- A. Use tongs to pick up the implant and return it to a lead-lined container

- B. Place the implant in a biohazard bag and return it to the lab
- C. Give the client a pair of gloves and ask her to reinsert the implant
- D. Discard the implant in the commode and double-flush

Correct Answer: A. Use tongs to pick up the implant and return it to a lead-lined container

- Option A: The radioactive implant should be picked up with tongs and returned to the lead-lined container to avoid radiation exposure.
- Option B: Radioactive materials are placed in lead-lined containers, not plastic ones, and are returned to the radiation department, not the lab.
- Option C: The client should not touch the implant or try to reinsert it.
- Option D: The implant should not be placed in the commode for disposal.

62. The nurse is aware that the best way to prevent postoperative wound infection in the surgical client is to:

- A. Administer a prescribed antibiotic
- B. Wash her hands for 2 minutes before care
- C. Wear a mask when providing care
- D. Ask the client to cover her mouth when she coughs

Correct Answer: B. Wash her hands for 2 minutes before care

The best way to prevent postoperative wound infection is hand washing. Up to 60% of SSI can be prevented. Prevention of postoperative wound infection is done by good general hygiene, operative sterility and effective barriers against transmission of infections, before, during and after surgery.

- **Option A:** Use of prescribed antibiotics will treat infection, not prevent infections. The prophylaxis should only cover the current operating time and start at the beginning of anaesthesia (1A). The prophylaxis should reach high enough tissue doses before incision (1A). Short half-life preparations (e.g. cefalotin) must be followed up with a new dose if prolonged operating time.
- **Option C:** Perform good hand hygiene throughout your stay. If bedridden, ask for wipes for hand disinfection. Ask visitors to carry out hand hygiene on arrival and when they leave the hospital. Ask health professionals to carry out hand hygiene if this fails—before and after your examination.
- **Option D:** Asking the client to cover her mouth are good practices but will not prevent wound infections. Ensure the eradication of infections, urinary tract infections, skin infections, and other local infections prior to admission. Check the dental status, especially before larger elective interventions with implants and the like. Postpone surgery, if possible, until the infection is cleared.

63. In the high-acuity setting of a respiratory intensive care unit, a vigilant nurse is closely monitoring a client who has been diagnosed with severe pneumonia leading to ineffective airway clearance. The client, who is receiving mechanical ventilation, is at risk of accumulating secretions that could obstruct the airway and compromise respiratory function. The nurse understands the critical importance of timely and appropriate suctioning to maintain airway patency. Which clinical indicator should the nurse prioritize to most accurately

determine the immediate need for suctioning in this client?

- A. Oxygen saturation
- B. Respiratory rate
- C. Breath sounds
- D. Arterial blood gases
- E. Client's level of consciousness
- F. Visible secretions in the artificial airway

Correct Answer: C. Breath sounds

Adventitious breath sounds, such as crackles or wheezes, can indicate secretions in the airways and are a direct sign that the client may benefit from suctioning. Listening to breath sounds provides specific information about airway clearance and is a primary assessment tool for respiratory status.

- **Option A:** While a drop in oxygen saturation is an important indicator of respiratory distress, it is a late sign of airway obstruction. It may not specifically indicate the need for suctioning as various other factors can affect oxygen saturation.
- **Option B:** An increased respiratory rate can indicate respiratory distress, but it is not specific enough to determine the need for suctioning. Like oxygen saturation, many conditions can lead to tachypnea.
- **Option D:** Arterial blood gases (ABGs) provide comprehensive information about oxygenation, ventilation, and acid-base balance but are an invasive test and not a practical tool for making immediate decisions about suctioning.
- **Option E:** A decrease in the client's level of consciousness can indicate hypoxia or other complications but is not a specific indicator of the need for suctioning.
- **Option F:** Visible secretions in the artificial airway are a clear sign that suctioning is needed; however, secretions may be present deeper in the airways and not immediately visible.

64. Kenneth, who was diagnosed with uremic syndrome has the potential to develop complications. Which among the following complications should the nurse anticipate:

- A. Flapping hand tremors
- B. An elevated hematocrit level
- C. Hypotension
- D. Hypokalemia

Correct Answer: A. Flapping hand tremors

Elevation of uremic waste products causes irritation of the nerves, resulting in flapping hand tremors. The classic description has been in hepatic diseases but other causes can commonly cause asterixis including azotemia and respiratory disease. Asterixis is a disorder of motor control characterized by an inability to actively maintain a position and consequent irregular myoclonic lapses of posture affecting various parts of the body independently.

- **Option B:** Hematocrit levels in uremic syndrome are usually very low, which leads to a higher risk of starting dialysis. Anemia-induced fatigue is thought to be one of the major contributors to the

uremic syndrome. Erythropoietin (EPO), a hormone necessary for red blood cell production in bone marrow, is produced by peritubular cells in the kidney in response to hypoxia.

- **Option C:** Life-threatening complications, such as hypertension, occur in clients with uremic syndrome. Cardiac arrest may occur from severe underlying electrolyte abnormalities, such as hyperkalemia, metabolic acidosis, or hypocalcemia. Renal dysfunction may contribute to associated fluid retention, which may lead to uncontrolled hypertension and congestive heart failure.
- **Option D:** Several underlying electrolyte abnormalities such as hyperkalemia and hypocalcemia leads to cardiac arrest. Hyperkalemia (potassium >6.5 mEq/L) may be an acute or chronic manifestation of renal failure, but regardless of the etiology, a potassium level of greater than 6.5 mEq/L is a clinical emergency. As renal function declines, the nephron is unable to excrete a normal potassium load, which can lead to hyperkalemia if dietary intake remains constant.

65. Nurse Alice is caring for a client being treated for alcoholism. Before initiating therapy with disulfiram (Antabuse), the nurse teaches the client that he must read labels carefully on which of the following products?

- A. Carbonated beverages
- B. Aftershave lotion
- C. Toothpaste
- D. Cheese

Correct Answer: B. Aftershave lotion

Disulfiram may be given to clients with chronic alcohol abuse who wish to curb impulse drinking. Disulfiram works by blocking the oxidation of alcohol, inhibiting the conversion of acetaldehyde to acetate. As acetaldehyde builds up in the blood, the client experiences noxious and uncomfortable symptoms. Even alcohol rubbed onto the skin can produce a reaction. The client receiving disulfiram must be taught to read ingredient labels carefully to avoid products containing alcohol such as aftershave lotions. Close monitoring of adverse events is necessary, in particular, in patients with polysubstance abuse. Patients taking disulfiram require monitoring for signs and symptoms of hepatitis, including fatigue, weakness, anorexia, nausea, vomiting, jaundice, malaise, and dark urine.

- **Option A:** Disulfiram is one of three drugs approved by the FDA for the treatment of alcohol dependence. It is a second-line option (acamprosate and naltrexone are first-line treatments) in patients with sufficient physician supervision. Disulfiram is safe and efficient in supervised short-term and long-term treatment of individuals dependent on alcohol but who are motivated to discontinue alcohol use.
- **Option C:** Disulfiram irreversibly inhibits aldehyde dehydrogenase (ALDH1A1) by competing with nicotinamide adenine dinucleotide (NAD) at the cysteine residue in the active site of the enzyme. ALDH1A1 is a hepatic enzyme of the major oxidative pathway of alcohol metabolism converting ethanol to acetaldehyde. At therapeutic doses of disulfiram, alcohol consumption results in increased serum acetaldehyde, causing diaphoresis, palpitations, facial flushing, nausea, vertigo, hypotension, and tachycardia.
- **Option D:** Patients receiving metronidazole, paraldehyde, alcohol, or alcohol-containing preparations (sauces, cough mixtures, vinegar) should not receive disulfiram and should be educated in advance to avoid a disulfiram-alcohol reaction. Never administer to a patient if alcohol use is suspected or without the patient's consent and understanding of disulfiram-alcohol reaction.

66. Nurse Jen is caring for a male client with manic depression. The plan of care for a client in a manic state would include:

- A. Offering high-calorie meals and strongly encouraging the client to finish all food.
- B. Insisting that the client remain active through the day so that he'll sleep at night.
- C. Allowing the client to exhibit hyperactive, demanding, manipulative behavior without setting limits.
- D. Listening attentively with a neutral attitude and avoiding power struggles.

Correct Answer: D. Listening attentively with a neutral attitude and avoiding power struggles.

The nurse should listen to the client's requests, express willingness to seriously consider the request, and respond later. The nurse shouldn't try to restrain the client when he feels the need to move around as long as his activity isn't harmful. Remain neutral as possible; Do not argue with the client. The client can use inconsistencies and value judgments as justification for arguing and escalating mania. Maintain a consistent approach, employ consistent expectations, and provide a structured environment. Clear and consistent limits and expectations minimize the potential for client's manipulation of staff.

- **Option A:** High-calorie finger foods should be offered to supplement the client's diet, if he can't remain seated long enough to eat a complete meal. The nurse shouldn't be forced to stay seated at the table to finish a meal. Provide frequent high-calorie fluids (e.g., fruit shake, milk). Prevents the risk of serious dehydration.
- **Option B:** The nurse should encourage the client to take short daytime naps because he expends so much energy. Provide frequent rest periods to prevent exhaustion. Maintain a low level of stimuli in the client's environment (e.g., loud noises, bright light, low-temperature ventilation). Helps minimize the escalation of anxiety.
- **Option C:** The nurse should set limits in a calm, clear, and self-confident tone of voice. Use a calm and firm approach. Provides structure and control for a client who is out of control. Use short, simple, and brief explanations or statements. A short attention span limits understanding to small pieces of information. Redirect agitation and potentially violent behaviors with physical outlets in an area of low stimulation (e.g., punching bag). Can help to relieve pent-up hostility and relieve muscle tension.

67. Mr. Bartowski who is newly diagnosed with rheumatoid arthritis asks the community nurse how stress can affect his disease. The nurse would explain that:

- A. The psychological experience of stress will not affect symptoms of physical disease.
- B. Psychological stress can cause painful emotions, which are harmful to a person with an illness.
- C. Stress can overburden the body's immune system, and therefore one can experience increased symptoms.
- D. The body's stress response is stimulated when there are major disruptions in one's life.

Correct Answer: C. Stress can overburden the body's immune system, and therefore one can experience increased symptoms.

The stress response causes stimulation of the hypothalamic-pituitary-adrenal axis, which can further compromise an immune system that has been activated by the autoimmune disorder of rheumatoid arthritis. Consequently, the client can expect disease symptoms to exacerbate when under stress.

- **Option A:** Research says that rheumatoid arthritis can be caused by stress. Stress triggers rheumatoid arthritis by setting off the immune system's inflammatory response in which cytokines are released. Cytokines are chemicals that play an important role in inflammation and can increase the severity of rheumatoid arthritis in some patients. The greater the exposure to stress, the greater the inflammation becomes. This triggers a rheumatoid arthritis flare.
- **Option B:** Around one out of five patients with rheumatoid arthritis has depression due to the illness. Depression, in turn, further aggravates rheumatoid arthritis and leads to a greater number of painful joints, reduced functioning (higher number of days in bed), and increased visits to the doctor's clinic. All these further affect the patient's mental health and cause more stress and depression.
- **Option D:** Stress can cause rheumatoid arthritis and rheumatoid arthritis itself can also cause stress. Treatments that don't work or their side effects might affect the patient's mind. Joint pain and swelling can make routine activities difficult for the patient. All these things that come with rheumatoid arthritis can make the patient stressed, which can further trigger joint inflammation.

68. The family of a client who has been burned asks at what point the client will no longer be at greater risk for infection. What is the nurse's best response?

- A. "As soon as he finishes his antibiotic prescription."
- B. "As soon as his albumin level returns to normal."
- C. "When fluid remobilization has started."
- D. "When the burn wounds are closed."

Correct Answer: D. "When the burn wounds are closed."

Intact skin is a major barrier to infection and other disruptions in homeostasis. No matter how much time has passed since the burn injury, the client remains at high risk for infection as long as any area of skin is open.

- **Option A:** Even after the course of treatment of antibiotics, the patient is still at risk for infection if the wounds remain open. Examine wounds daily, note and document changes in appearance, odor, or quantity of drainage.
- **Option B:** Albumin levels are monitored if there is significant edema. Implement appropriate isolation techniques as indicated. Depending on the type or extent of wounds and the choice of wound treatment (open versus closed), isolation may range from a simple wound and/or skin to complete or reverse to reduce the risk of cross-contamination and exposure to multiple bacterial flora.
- **Option C:** Fluid resuscitation replaces lost fluids and electrolytes and helps prevent complications (shock, acute tubular necrosis). Once initial fluid resuscitation has been accomplished, a steady rate of fluid administration is preferred to boluses, which may increase interstitial fluid shifts and cardiopulmonary congestion.

69. The nurse is caring for a client hospitalized with a facial stroke. Which diet selection would be suited to the client?

- A. Roast beef sandwich, potato chips, pickle spear, iced tea
- B. Split pea soup, mashed potatoes, pudding, milk

- C. Tomato soup, cheese toast, Jello, coffee
- D. Hamburger, baked beans, fruit cup, iced tea

Correct Answer: B. Split pea soup, mashed potatoes, pudding, milk

The client with a facial stroke will have difficulty swallowing and chewing, and these food items mentioned provides the least amount of chewing. Consult with a speech therapist to evaluate gag reflexes; assist in teaching alternate swallowing techniques, advise the patient to take smaller boluses of food, and inform the patient of foods that are easier to swallow; provide thicker liquids or pureed diet as indicated.

- **Option A:** The patient would have difficulty in chewing meat. Observe the patient for paroxysms of coughing, food dribbling out or pooling in one side of the mouth, food retained for long periods in the mouth, or nasal regurgitation when swallowing liquids. Have the patient sit upright, preferably on a chair, when eating and drinking; advance diet as tolerated.
- **Option C:** This group would still require more chewing. Prepare for GI feedings through a tube if indicated; elevate the head of bed during feedings, check tube position before feeding, administer feeding slowly, and ensure that the cuff of the tracheostomy tube is inflated (if applicable); monitor and report excessive retained or residual feeding.
- **Option D:** The following food items would require more chewing and, thus, are incorrect. Avoid hard, chewy foods as these can be difficult to prepare, and choose a soft easy chew diet (such as pasta dishes, fish, well-cooked meats, and vegetables). Try smaller mouthfuls as these are easier to control and less likely to spill from the mouth.

70. Nurse Benjamin, who works at Little Stars Pediatric Hospital, has been assigned to care for 4-year-old Mia. Mia has been admitted for a corrective surgery related to her cleft palate. While reviewing Mia's medical history, Nurse Benjamin observes that Mia has had multiple instances of otitis media in the past year. Remembering his pediatric nursing training and understanding the interrelation between cleft palate and otitis media, Nurse Benjamin anticipates the potential reasons behind Mia's recurrent ear infections. He is preparing to discuss these with Mia's parents, to help them understand the risks and possible preventative measures. When assessing a child like Mia with a cleft palate, the nurse understands that the child is at risk for more frequent episodes of otitis media due to which of the following reasons?

- A. Lowered resistance from malnutrition.
- B. Ineffective functioning of the Eustachian tubes.
- C. Plugging of the Eustachian tubes with food particles.
- D. Associated congenital defects of the middle ear.
- E. Nasal congestion leading to impaired drainage.
- F. Chronic exposure to upper respiratory tract infections.

Correct Answer: B. Ineffective functioning of the Eustachian tubes.

Children with cleft palate often have altered muscle function which affects the Eustachian tube function. This can result in poor drainage of fluid from the middle ear, increasing the risk of otitis media. Understanding the link between cleft palate and ineffective functioning of the Eustachian tubes will help

Nurse Benjamin educate Mia's parents about her increased risk and discuss preventative measures to reduce future occurrences.

- **Option A:** While children with cleft palate can face feeding difficulties which may lead to malnutrition, it isn't the direct cause of increased otitis media in these children.
- **Option C:** Food particles don't typically enter the Eustachian tubes. However, children with cleft palate are at risk of aspirating food into the airways, not the ears.
- **Option D:** Some children with cleft palate may have associated middle ear defects, but this isn't the primary reason for the increased risk of otitis media in most children with cleft palate.
- **Option E:** While nasal congestion can contribute to otitis media, it's not directly related to the presence of a cleft palate.
- **Option F:** Children with frequent respiratory infections can have an increased risk of otitis media, but this is not a direct correlation with having a cleft palate.

71. A nurse is giving dietary instructions to a client receiving levodopa. Which of the following food items should be avoided by the client?

- A. Goat yogurt
- B. Whole grain cereal
- C. Asparagus
- D. Apples

Correct Answer: B. Whole grain cereal

When administering levodopa, the client should avoid excessive intake of foods rich in pyridoxine (vitamin B6) which has been found to reduce the effects of levodopa. Large amounts of pyridoxine are also contained in some foods such as bananas, egg yolks, lima beans, meats, peanuts, and whole-grain cereals.

- **Options A, C, & D:** These are foods low in vitamin B6.

72. An elderly client with an abdominal surgery is admitted to the unit following surgery. In anticipation of complications of anesthesia and narcotic administration, the nurse should:

- A. Administer oxygen via nasal cannula
- B. Have narcan (naloxone) available
- C. Prepare to administer blood products
- D. Prepare to do cardio resuscitation

Correct Answer: B. Have narcan (naloxone) available

Narcan is the antidote for narcotic overdose. Naloxone is indicated for the treatment of opioid toxicity, specifically to reverse respiratory depression from opioid use. It is useful in accidental or intentional overdose and acute or chronic toxicity. Common opioid overdoses treated with naloxone include heroin, fentanyl, carfentanil, hydrocodone, oxycodone, methadone, and others.

- **Option A:** If hypoxia occurs, the client should have oxygen administered by mask, not cannula. The incidence of naloxone-induced noncardiogenic pulmonary edema is estimated to be between 0.2% and 3.6% of patients who have received naloxone and are transported to the emergency department. Symptoms include persistent hypoxia, despite the resolution of respiratory depression secondary to acute overdose. Patients may also have a cough productive of the classic “pink, frothy sputum” indicative of pulmonary edema.
- **Option C:** In chronic opioid users, naloxone requires slow administration to individuals who are dependent on opioids. All patients who have responded to naloxone should be continuously monitored for at least six to 12 hours since some opioids (methadone, fentanyl, buprenorphine) have a much longer half-life than naloxone.
- **Option D:** There is no data to support cardiac resuscitation in this case. The patient should have vital signs, including pulse oximetry, monitored until obtaining a full recovery. Even after reversing respiratory depression, the patient must be monitored for at least six to 12 hours because the patient may have ingested the longer-acting opioids, which will continue to exert their effects after excretion of the naloxone. Any patient that requires IV naloxone of doses more than 5 mg should be admitted.

73. Which nursing intervention ensures adequate ventilating exchange after surgery?

- A. Remove the airway only when the client is fully conscious
- B. Assess for hypoventilation by auscultating the lungs
- C. Position client laterally with the neck extended
- D. Maintain humidified oxygen via nasal cannula

Correct Answer: C. Position client laterally with the neck extended

Positioning the client laterally with the neck extended does not obstruct the airway so that drainage of secretions and oxygen and carbon dioxide exchange can occur. This position promotes oxygenation via maximum chest expansion and is implemented during events of respiratory distress. Do not let the client slide down; this causes the abdomen to compress the diaphragm, which could cause respiratory change.

- **Option A:** The client should be weaned first before removing the airway. Weaning from mechanical ventilation is the process of reducing ventilatory support, ultimately resulting in a patient breathing spontaneously and being extubated. This process can be achieved rapidly in 80% of patients when the original cause of the respiratory failure has improved.
- **Option B:** Assessing hypoventilation through the lungs would provide inadequate results. Changes in the respiratory rate and rhythm are early signs of possible respiratory distress. As moving air in and out of the lungs becomes more difficult, the breathing pattern changes to include the use of accessory muscles to increase chest excursions.
- **Option D:** Oxygen may be maintained after surgery but this might be inadequate. The key is that the client receives oxygenation support at all times until mechanical ventilation is no longer required.

74. The psychiatric nurse uses cognitive-behavioral techniques when working with a client who experiences panic attacks. Which of the following techniques are common to this theoretical framework? Select all that apply.

- A. Administering anti-anxiety medication as prescribed.
- B. Encouraging the client to restructure thoughts.
- C. Helping the client to use controlled relaxation breathing.
- D. Helping the client examine evidence of stressors.
- E. Questioning the client about early childhood relationships.
- F. Teaching the client about anxiety and panic.

Correct Answers: B, C, D, F

These are all appropriate techniques based on the framework of cognitive-behavioral therapy. The main approaches to the treatment of panic disorder include both psychological and pharmacological interventions. Psychological interventions consist of cognitive-behavioral therapy. As an added benefit in patients with a panic disorder that also has concomitant comorbid medical conditions, there are components of their therapeutic regimens which may also secondarily improve their respective medical illnesses.

- **Option A:** Antidepressants and benzodiazepines are the mainstays of pharmacologic treatment. Among the different classes of antidepressants, selective serotonin reuptake inhibitors (SSRIs) are recommended over monoamine oxidase inhibitors and tricyclic antidepressants. SSRIs are considered the first-line treatment option for patients with panic disorder.
- **Option B:** Suggest that the client substitute positive thoughts for negative ones. Emotion connected to thought, and changing to a more positive thought can decrease the level of anxiety experienced. This also gives the client an alternative way of looking at the problem. Include the client in making decisions related to selection of alternative coping strategies. Allowing the client choices provides a measure of control and serves to increase feelings of self-worth.
- **Option C:** Breathing training is a method of reducing panic symptomatology by utilizing capnometry biofeedback to decrease the number of episodes of hyperventilation. Several of these slow breathing techniques have been shown to benefit patients with asthma and hypertension. Hyperventilation reduction can help patients with cardiovascular disease. Anxiety and stress-reduction techniques can lower adverse outcomes in cardiovascular illness by decreasing sympathetic activity.
- **Option D:** Encourage the client to explore underlying feelings that may be contributing to irrational fears. Help the client to understand how facing these feelings, rather than suppressing them, can result in more adaptive coping abilities. Verbalization of feelings in a non-threatening environment may help the client come to terms with unresolved issues. Discuss the process of thinking about the feared object/situation before it occurs. Anticipation of a future phobic reaction allows the client to deal with the physical manifestations of fear.
- **Option E:** Encourage the client to share the seemingly unnatural fears and feelings with others, especially the nurse therapist. Clients are often reluctant to share feelings for fear of ridicule and may have repeatedly been told to ignore feelings. Once the client begins to acknowledge and talk about these fears, it becomes apparent that the feelings are manageable.
- **Option F:** Explore things that may lower fear level and keep it manageable (e.g. singing while dressing, repeating a mantra, practicing positive self-talk while in a fearful situation); provides the client with a sense of control over the fear. Distracts the client so that fear is not totally focused on and allowed to escalate. Educate the patient and/or SO that anxiety disorders are treatable. Pharmacological therapy is an effective treatment for anxiety disorders; treatment regimen may include antidepressants and anxiolytics.

75. The nurse caring for a client with small bowel obstruction would plan to implement which nursing intervention first?

- A. Administering pain medication
- B. Obtaining a blood sample for laboratory studies
- C. Preparing to insert a nasogastric (NG) tube
- D. Administering I.V. fluids

Correct Answer: D. Administering I.V. fluids.

I.V. infusions containing normal saline solution and potassium should be given first to maintain fluid and electrolyte balance. Maintenance of bowel rest requires alternative fluid replacement to correct losses and anemia. Fluids containing sodium may be restricted in presence of regional enteritis.

- **Option A:** Pain medication often is withheld until the obstruction is diagnosed because analgesics can decrease intestinal motility. Provide comfort measures (back rub, reposition) and diversional activities. Promotes relaxation, refocuses attention, and may enhance coping abilities.
- **Option B:** A blood sample is then obtained for laboratory studies to aid in the diagnosis of bowel obstruction and guide treatment. Blood studies usually include a complete blood count, serum electrolyte levels, and blood urea nitrogen level.
- **Option C:** For the client's comfort and to assist in bowel decompression, the nurse should prepare to insert an NG tube next. Resume or advance diet as indicated (clear liquids progressing to bland, low residue; then high-protein, high-calorie, caffeine-free, non-spicy, and low-fiber as indicated).

76. Use of methylphenidate for attention deficit disorders in children can result in:

- A. Tourette's syndrome
- B. Growth suppression
- C. Growth spurt
- D. A and B

Correct Answer: D. A and B

Use of Ritalin does not cause a growth spurt. Instead, it can cause Tourette's syndrome and growth suppression in children. Medical conditions that are not compatible with methylphenidate include glaucoma, severe hypertension, motor tics, and Tourette syndrome or a family history of Tourette syndrome. In children, it is particularly important to evaluate their growth curve for a stable progression in height and weight since methylphenidate has demonstrated growth suppression when used on a daily, long-term basis. The medication should either be readjusted or discontinued if children are not in a healthy percentile on their growth curve.

- **Option C:** Methylphenidate blocks the reuptake of two neurotransmitters, norepinephrine (NE) and dopamine, by presynaptic neurons. More specifically, it inhibits the transporters of these neurotransmitters, increasing the concentration of dopamine and NE in the synaptic cleft. Overall, this creates its classic stimulant effect within the central nervous system (CNS), mainly in the prefrontal cortex. It chemically derives from phenethylamine and benzylpiperazine. It undergoes metabolism by the liver to ritalinic acid through a process called de-esterification via carboxylesterase CES1A1.

- **Option D:** Insomnia and nervousness are the most commonly reported adverse effects in patients on methylphenidate. Other frequent side effects mainly involve the CNS (dizziness, headache, tics, restlessness/akathisia), gastrointestinal (nausea/vomiting, dry mouth, decreased appetite, weight loss, abdominal pain), and cardiovascular systems (tachycardia, and palpitations). Dermatologically, patients can complain of excessive sweating and ulceration of their digits. Some patients may even develop blurry vision or decreased libido. Patients are more prone to become easily agitated, irritable, or depressed and go through mood swings/lability).

77. When monitoring a client who is taking benzodiazepines, the nurse should be alert for which CNS side effects?

- A. Blurred vision, anorexia, dysarthria
- B. Seizures, tremors, diaphoresis
- C. Ataxia, sedation, dizziness
- D. Libido changes, edema, dystonia

Correct Answer: C. Ataxia, sedation, dizziness

These are common side effects. CNS and neuromuscular adverse effects may include euphoria, hallucination, ataxia, dizziness, seizure-like activity, and paresthesia.

- **Option A:** Anorexia is a GI effect. Gastrointestinal reactions may include retching, nausea/vomiting, and excess salivation.
- **Option B:** These are side effects of acute withdrawal. Doses of 0.05 mg may be recommended, as a withdrawal from opioids may precipitate vomiting. This becomes an issue in the sedated benzodiazepine overdosed patient, as they may be unable to protect their airway.
- **Option D:** Libido and edema are not CNS-related side effects. In neonates, less than 1% of patients treated with benzodiazepines experience laryngospasm and/or bronchospasm. They may also experience ventricular arrhythmias including ventricular bigeminy or premature ventricular contractions, vasovagal syncope, bradycardia, or tachycardia.

78. Alice is using antiviral creams for her genital herpes. Which of the following is a potential side effect of the medication?

- A. Vulvitis
- B. Headache
- C. Dizziness
- D. Staining of the skin

Correct Answer: A. Vulvitis

Antiviral creams can cause vulvitis when applied to the genitalia to treat genital herpes. Acyclovir cream is used to treat cold sores (fever blisters; blisters that are caused by a virus called herpes simplex) on the face or lips. Acyclovir ointment is used to treat first outbreaks of genital herpes (a herpes virus infection that causes sores to form around the genitals and rectum from time to time) and to treat certain types of sores caused by the herpes simplex virus in people with weak immune systems.

- **Option B:** Acyclovir is in a class of antiviral medications called synthetic nucleoside analogues. It works by stopping the spread of the herpes virus in the body. Acyclovir does not cure cold sores or

genital herpes, does not prevent outbreaks of these conditions, and does not stop the spread of these conditions to other people.

- **Option C:** Topical acyclovir comes as a cream and an ointment to apply to the skin. Acyclovir cream is usually applied five times a day for 4 days. Acyclovir cream may be applied at any time during a cold sore outbreak, but it works best when it is applied at the very beginning of a cold sore outbreak when there is tingling, redness, itching, or a bump but the cold sore has not yet formed.
- **Option D:** Acyclovir ointment is usually applied six times a day (usually 3 hours apart) for 7 days. It is best to begin using acyclovir ointment as soon as possible after the client experiences the first symptoms of infection. Follow the directions on the prescription label carefully, and ask the doctor or pharmacist to explain any part that is not understood.

79. A high school student returns to school following a 3-week absence due to mononucleosis. The school nurse knows it will be important for the client:

- A. To complete antiviral medication for 7-14 days
- B. To avoid contact sports for 1–2 months
- C. To have a snack twice a day to prevent hypoglycemia
- D. To continue antibiotic therapy for 6 months

Correct Answer: B. To avoid contact sports for 1–2 months

- **Option B:** Mononucleosis is an infectious disease that is caused by the Epstein-Barr virus. The client recovering from mononucleosis should avoid contact sports and other activities that could result in injury or rupture of the spleen.
- **Options A and D:** Antibiotics and antivirals are not usually indicated for mononucleosis. Treatment is focused on relieving symptoms such as pain relief, hydration, and rest.
- **Option C:** Hypoglycemia is not associated with mononucleosis.

80. Nikki reveals that the boyfriend has been pressuring her to engage in premarital sex. The most therapeutic response by the nurse is:

- A. "I can refer you to a spiritual counselor if you like."
- B. "You shouldn't allow anyone to pressure you into sex."
- C. "It sounds like this problem is related to your paralysis."
- D. "How do you feel about being pressured into sex by your boyfriend?"

Correct Answer: D. "How do you feel about being pressured into sex by your boyfriend?"

Focusing on the expression of feelings is therapeutic. The central force of the client's condition is anxiety. Focusing, an approach to therapeutic treatment in which the therapist works to help the individual in treatment gain awareness into their bodily felt sense, is meant to help people seeking treatment learn to direct their attention toward things they experience that are difficult to describe in a concrete way.

- **Option A:** This is not therapeutic because the nurse passes the responsibility to the counselor. Focusing can help people become reacquainted with internal awareness of their emotions, helping them become better able to more readily address them. Many of those who pursue focusing

therapy or incorporate it into other treatment approaches find they can better describe what they feel and/or desire, cultivate independence from belief systems they no longer subscribe to, and experience greater success in therapy. People also report greater attentiveness in their lives, decreased tension and chronic pain, and increased decision-making and problem-solving abilities. Relationships and life experiences or situations may also be positively impacted.

- **Option B:** Giving advice is not therapeutic. Also influencing the approach is the concept that change is more than a verbal process. Often, the concepts and ideas addressed in therapy are emotions and feelings, things that often cannot be easily put into words. Though a person might be easily aware of these emotions, thoughts, and behaviors on a surface level of awareness, and may even experience some level of insight into them, focusing therapy aims to help them target the deeper “felt” sense. Practitioners of the approach believe that those who are able to access and target this felt sense may be better able to achieve results in therapy, work through the issues concerning them, and produce a physical change in the body through the release of chronic tension.
- **Option C:** This is not therapeutic because it confronts the underlying cause. Grounded in the person-centered approach to treatment, focusing therapy holds that individuals possess within themselves the answers they are seeking and is founded on the concept that individuals know themselves better than a therapist could ever hope to. This “knowing” refers to the knowledge of the body (the body’s awareness), however, not the knowledge of the thinking brain. In focusing therapy, therapist and person in treatment work to reaffirm the bodily knowledge a person has and allow the body to steer a person within future situations.

81. A 1-year-old child is diagnosed with scabies. Which of the following medicines is expected to be prescribed?

- A. Permethrin
- B. Lindane
- C. Both
- D. None

Correct Answer: A. Permethrin

Permethrin and Lindane are used against scabies, but lindane is contraindicated for children below two years old because of the risk of seizures and neurotoxicity. Topical permethrin 5% cream is effective and widely used. The cream is typically applied once a week for two weeks (a total of 2 treatments). However, this treatment is occasionally associated with scabies resistance, poor patient compliance, and rare allergic reactions.

- **Option B:** Other options are topical lindane, 5% precipitated sulfur, malathion, and topical ivermectin. Lindane Lotion is contraindicated for premature infants because their skin may be more permeable than that of full-term infants and their liver enzymes may not be sufficiently developed to metabolize Lindane.
- **Option C:** Permethrin has not been approved by the FDA for use in infants before the age of 2 months, and limited studies have taken place to assess the use of this medication in these patients. However, some recent research suggests that 5% permethrin cream can be safely used to treat scabies in this infant population.
- **Option D:** For classical scabies, 5% permethrin cream is applied topically to cool, dry skin from the patient’s head to the patient’s toes and under the fingernails. The cream is washed off after 8 to 14 hours and is often reapplied in the same way one week later.

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

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

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

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

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

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

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

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

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

- **Option A:** Therapeutic communication is often most effective when patients direct the flow of conversation and decide what to talk about. To that end, giving patients a broad opening such as "What's on your mind today?" or "What would you like to talk about?" can be a good way to allow patients an opportunity to discuss what's on their mind.
- **Option B:** At times, it's useful to not speak at all. Deliberate silence can give both nurses and patients an opportunity to think through and process what comes next in the conversation. It may give patients the time and space they need to broach a new topic. Nurses should always let patients break the silence.

- **Option D:** Recognition acknowledges a patient's behavior and highlights it without giving an overt compliment. A compliment can sometimes be taken as condescending, especially when it concerns a routine task like making the bed. However, saying something like "I noticed you took all of your medications" draws attention to the action and encourages it without requiring a compliment.

84. Which of the following factors would the nurse suspect as predisposing a client to placenta previa?

- A. Multiple gestation
- B. Uterine anomalies
- C. Abdominal trauma
- D. Renal or vascular disease

Correct Answer: A. Multiple gestation

Multiple gestation is one of the predisposing factors that may cause placenta previa. Placenta previa is more common in older and multiparous women. The reason is not clear but it may be associated with the aging of the vasculature of the uterus. This causes placental hypertrophy and enlargement which increases the likelihood of the placenta encroaching on lower segment

- **Option B:** Patients with a unicornuate uterus had high rates of placenta or vasa previa, and three of five pregnancies with placenta previa also had placenta accreta. While this represents a small series, placenta accreta in those with placenta previa has been reported to occur with this frequency in women with multiple prior cesarean deliveries.
- **Option C:** The exact etiology of placental abruption is unknown. However, a number of factors are associated with its occurrence. Risk factors can be thought of in 3 groups: health history, including behaviors, and past obstetrical events, current pregnancy, and unexpected trauma.
- **Option D:** Complications of conservative management of placenta percreta described in the literature include bleeding, infection (endometritis, wound infection, peritonitis, pyelonephritis, uterine necrosis), sepsis and septic shock, fistula formation, thrombosis, pulmonary embolism, pulmonary edema, and the side-effects of methotrexate therapy. Acute renal failure has only been described in one case with methotrexate injection into the umbilical cord and was considered an acute side-effect of methotrexate therapy.

85. The client, who is 2 weeks postburn with a 40% deep partial-thickness injury, still has open wounds. On taking the morning vital signs, the client is found to have a below-normal temperature, is hypotensive, and has diarrhea. What is the nurse's best action?

- A. Nothing, because the findings are normal for clients during the acute phase of recovery.
- B. Increase the temperature in the room and increase the IV infusion rate.
- C. Assess the client's airway and oxygen saturation.
- D. Notify the burn emergency team.

Correct Answer: D. Notify the burn emergency team.

These findings are associated with systemic gram-negative infection and sepsis. This is a medical emergency and requires prompt attention. Invasive infection of burn wounds is a surgical emergency

because of the high concentrations of bacteria (>105 CFU) in the wound and surrounding area, together with new areas of necrosis in unburned tissues.

- **Option A:** Invasive infection is now the chief reason for death and morbidity after burn injury, with it being responsible for 51% of the deaths. The importance of prevention, surveillance, and sampling for infections in this immunocompromised group has been well established; however, there is a dearth of standard-of-care guidelines and novel approaches.
- **Option B:** Urgent resuscitation measures are required, along with broad-spectrum antimicrobial agents, antifungals, and surgical debridement of the affected area. Specimens of this tissue must undergo histopathologic and microbiologic analysis to assist in the identification of the causative organism(s).
- **Option C:** Assessment of the airway and oxygen saturation would not help in diagnosing a burn infection. Burn wound colonization may be diagnosed when bacteria are present at low concentrations (<105 colony-forming units [CFU]) on the wound's surface. This situation often is accompanied by signs of sepsis and changes in the burn wound such as black, blue, or brown discoloration of the eschar.