Kevin's Review - 85 NCLEX Practice Questions

1. A client has just had surgery for colon cancer. Which of the following disorders might the client develop?

A. Peritonitis

B. Diverticulosis

C. Partial bowel obstruction

D. Complete bowel obstruction

Correct Answer: A. Peritonitis

Bowel spillage could occur during surgery, resulting in peritonitis. Intestinal perforations occur most commonly in CRC and in diverticular disease. They are seen less often in other diseases of the colon (ulcerative colitis, Lesniowski-Crohn disease), abdominal trauma therein iatrogenic (complications after surgery, after endoscopic examination, or after radiation therapy), colonic ischemia, and necrosis.

- **Option B:** Diverticulosis doesn't result from surgery or colon cancer. Diverticulosis is a clinical condition in which multiple sac-like protrusions (diverticula) develop along the gastrointestinal tract. Though diverticula may form at weak points in the walls of either the small or large intestines, the majority occur in the large intestine (most commonly the sigmoid colon).
- **Option C:** Partial bowel obstruction may occur before bowel resection. Acute colonic obstruction produces a dilated bowel with a large amount of fecal loading that is proximal to the blockage and is associated with bacterial overgrowth and impairment of blood flow.
- **Option D:** Complete bowel obstruction may occur before bowel resection. Colorectal cancer is the single most common cause of large intestinal obstruction. Approximately 2% to 5% of colorectal cancer patients have an obstruction. Cancer arising in the rectum or left colon is more likely to obstruct than cancer arising in the proximal colon.

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

A. Respiratory Alkalosis, Fully Compensated

B. Metabolic Acidosis, Uncompensated

C. Metabolic Acidosis, Fully Compensated

D. Respiratory Acidosis, Uncompensated

Correct Answer: C. Metabolic Acidosis, Fully Compensated

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

3. A 58-year-old male patient has recently undergone a left thoracotomy and a partial pneumonectomy to treat lung cancer. Post-surgery, chest tubes are inserted, and one-bottle water-seal drainage is instituted. In the postanesthesia

care unit, the nurse positions the client in Fowler's position on his right side or on his back. The nurse understands that this positioning is critical for postoperative recovery. Understanding the implications of postoperative positioning, the nurse is aware that placing the patient in Fowler's position on either his right side or on his back primarily:

A. Reduce incisional pain.

B. Facilitate ventilation of the left lung.

C. Equalize pressure in the pleural space.

D. Increase venous return.

Correct Answer: B. Facilitate ventilation of the left lung.

Since only a partial pneumonectomy is done, there is a need to promote expansion of this remaining left lung by positioning the client on the opposite unoperated side.

- **Option A:** This position may reduce the pressure on the surgical incision site, but it is not its priority.
- **Option C:** Fowler's position is associated with improvement of functional residual capacity, oxygenation, and reduction of work of breathing.
- **Option D:** On the transition from sitting to standing, blood is pooled in the lower extremities as a result of gravitational forces. Venous return is reduced, which leads to a decrease in cardiac stroke volume, a decline in arterial blood pressure, and an immediate decrease in blood flow to the brain.

4. Which statement made by the nurse describes the inheritance pattern of autosomal recessive disorders?

A. An affected newborn has unaffected parents.

B. An affected newborn has one affected parent.

C. Affected parents have a one in four chance of passing on the defective gene.

D. Affected parents have unaffected children who are carriers.

Correct Answer: C. Affected parents have a one in four chance of passing on the defective gene.

Autosomal recessive disorders can be passed from the parents to the infant. If both parents pass the trait, the child will get two abnormal genes and the disease results. Parents can also pass the trait to the infant. Patients affected with autosomal recessive (AR) diseases have a disease allele on each chromosome. The pattern of individuals affected with an AR disease can be traced through a family to determine which individuals are carriers and which individuals are likely to become impacted.

- **Option A:** To have an affected newborn, the parents must be carriers. The easiest way to determine the inheritance pattern of a disorder in a family is by looking at a pedigree. Autosomal recessive diseases typically affect both females and males equally. Autosomal recessive patterns manifest by skipping generations as the affected are usually children of unaffected carriers.
- **Option B:** Both parents must be carriers. The most common situation of an autosomal recessive disease occurs when the parents are each carrier or heterozygous (Dd). Children of carrier parents have a 25% chance of inheriting the disorder. This value is obtained by using the Punnett square

model used in genetics.

- **Option D:** The parents might have affected children. Each parent has a 50% chance of passing on the disease allele. Using the multiplication rule of probability, there is a 50% chance that the father passes on his disease allele and a 50% chance that the mother passes on her disease allele; 50% x 50% = 25%. So with the mating of carrier parents, there is a 25% chance that the child will be affected, a 50% chance that the child would be a carrier, and 25% chance that they would be homozygous dominant and unaffected.

5. Which of the following insulin cannot be mixed with any other type of insulin?

A. Insulin glargine

B. Insulin aspart

C. Insulin isophane

D. Insulin lispro

Correct Answer: A. Insulin glargine

Insulin glargine when mixed with any other types of insulin changes its duration of action (a combination of long-acting and short-acting insulin) so it is advised that it should not be mixed with any other type of insulin.

6. The nurse is developing a teaching plan for a patient who is 8 weeks pregnant. The nurse should tell the patient that she can expect to feel the fetus move at which time?

A. Between 10 and 12 weeks' gestation

B. Between 16 and 20 weeks' gestation.

C. Between 21 and 23 weeks' gestation.

D. Between 24 and 26 weeks' gestation.

Correct Answer: B. Between 16 and 20 weeks' gestation.

A pregnant woman usually can detect fetal movement (quickening) between 16 and 20 weeks' gestation.

- **Option A:** Before 16 weeks, the fetus is not developed enough for the woman to detect movement.
- **Option C:** After 20 weeks, the fetus continues to gain weight steadily, the lungs start to produce surfactant, the brain is grossly formed, and myelination of the spinal cord begins.
- **Option D:** After 24 weeks, the fetus might be able to respond to familiar sounds such as its mother's voice, with movement. It is spending most of its sleep time in rapid eye movement (REM).

7. The clinic nurse notes that following several eye examinations, the physician has documented a diagnosis of legal blindness in the client's chart. The nurse reviews the results of the Snellen's chart test expecting to note which of the following?

A. 20/20 vision

B. 20/40 vision

C. 20/60 vision

D. 20/200 vision

Correct Answer: D. 20/200 vision

Legal blindness is defined as 20/200 or less with corrected vision (glasses or contact lenses) or visual acuity of less than 20 degrees of the visual field in the better eye. The WHO describes individuals with low vision as having a best-corrected vision of 20/60 or worse, and blind as best corrected vision worse than 20/400, whereas legal blindness is identified as 20/200 in the United States.

- **Option A:** Although 20/20 visual acuity has been referred to as “perfect vision,” it is important to remember that this is only one aspect of vision and does not include other elements such as depth perception, peripheral vision, and colorblindness.
- **Option B:** In the United States, visual acuity screening will typically begin as early as age 3. There is a critical line that the child should be able to complete on a visual acuity chart by age group. The critical line for children between the ages of three to four is 20/50, four to five is 20/40, and five or older is 20/30.
- **Option C:** An individual with 20/60 vision would be able to distinguish the same optotype at 20 ft that another individual with normal (20/20) vision distinguishes at 60 ft. In the logMAR, visual acuity is reported as a single number where 0.0 is standard vision. Visual acuity decreases as the number increases and improves as the number decreases.

8. A pregnant client is diagnosed with partial placenta previa. In explaining the diagnosis, the nurse tells the client that the usual treatment for partial placenta previa is which of the following?

A. Activity limited to bed rest.

B. Platelet infusion.

C. Immediate cesarean delivery.

D. Labor induction with oxytocin.

Correct Answer: A. Activity limited to bed rest

Treatment of partial placenta previa includes bed rest, hydration, and careful monitoring of the client’s bleeding.

- **Option B:** The greatest risk of placenta previa is hemorrhage. Bleeding often occurs as the lower part of the uterus thins during the third trimester of pregnancy in preparation for labor. This may require blood transfusion during Cesarean section.
- **Option C:** In general, there is a higher Cesarean rate associated with placental edge-to-cervical os distances of less than 2 cm.
- **Option D:** Labor induction is the stimulation of uterine contractions during pregnancy before labor begins on its own to achieve a vaginal birth. It is not an option for placenta previa.

9. Nurse Ruth assessing a patient for tracheal displacement should know that the trachea will deviate toward the:

A. Contralateral side in a simple pneumothorax.

B. Affected side in a hemothorax.

C. Affected side in a tension pneumothorax.

D. Contralateral side in hemothorax.

Correct Answer: D. Contralateral side in hemothorax.

The trachea will shift according to the pressure gradients within the thoracic cavity. If there is no significant air or fluid accumulation, the trachea will not shift. The pressure gradient inside the thorax changes with a pneumothorax. Normally the pressure of the pleural space is negative when compared to atmospheric pressure. When the chest wall expands outwards, the lung also expands outwards due to surface tension between parietal and visceral pleura.

- **Option A:** Tracheal deviation toward the contralateral side in simple pneumothorax is seen when the thoracic contents shift in response to the release of normal thoracic pressure gradients on the injured side. When there is communication between the alveoli and the pleural space, air fills this space changing the gradient, lung collapse unit equilibrium is achieved, or the rupture is sealed. Pneumothorax enlarges, and the lung gets smaller due to this vital capacity, and oxygen partial pressure decreases.
- **Option B:** In hemothorax, accumulation of air or fluid causes a shift away from the injured side. Traumatic pneumothorax can result from blunt or penetrating trauma, these often create a one-way valve in the pleural space (letting the airflow in but not to flow out) and hence hemodynamic compromise.
- **Option C:** A tension pneumothorax can cause severe hypotension (obstructive shock) and even death. An increase in central venous pressure can result in distended neck veins, hypotension. Patients may have tachypnea, dyspnea, tachycardia, and hypoxia.

10. The charge nurse asks the nursing assistive personnel (NAP) to give a bag bath to a patient with end-stage chronic obstructive pulmonary disease. How should the NAP proceed?

A. Bathe the patient's entire body using 8 to 10 washcloths.

B. Assist the patient to a chair and provide bathing supplies.

C. Saturate a towel and blanket in a plastic bag, and then bathe the patient.

D. Assist the patient to the bathtub and provide a bath chair.

Correct Answer: A. Bathe the patient’s entire body using 8 to 10 washcloths.

A towel bath is a modification of the bed bath in which the NAP places a large towel and a bath blanket into a plastic bag, saturates them with a commercially prepared mixture of moisturizer, non rinse cleaning agent, and water; warms in them in a microwave, and then uses them to bathe the patient. A bag bath is a modification of the towel bath, in which the NAP uses 8 to 10 washcloths instead of a towel or blanket. Each part of the patient’s body is bathed with a fresh cloth.

- **Option B:** A bag bath is not given in a chair or in the tub. The bag bath is one alternative to the traditional bed bath used in some nursing homes. The bath is performed with a series of 10 washcloths and a no-rinse liquid cleanser. Close the door and windows to prevent cold drafts and wash hands with warm water before beginning.

- **Option C:** Moisten the washcloths with water and put in a plastic bag with the cleanser. Warm the bag in the microwave for 60 to 90 seconds. Test the temperature of the clothes before touching a resident with them and be careful when you open the bag, as steam can burn.
- **Option D:** Take the bag to the resident's bedside. When you are not cleaning a body part, keep it covered. Only expose as much of the resident's body as necessary to adequately clean him or her. Be especially sensitive to exposing genitals, buttocks, and breasts. Bathing can be an extremely stressful experience for residents, so try to make it as easy as possible.

11. A 56-year-old male is newly admitted to the medical unit. Which factor alerts the nurse that this client has a risk for acid-base imbalances?

A. The client takes antacids for occasional indigestion.

B. The client gets short of breath with extreme exertion.

C. The client has a history of myocardial infarction 1 year ago.

D. The client has chronic renal insufficiency.

Correct Answer: D. The client has chronic renal insufficiency.

Chronic renal disease and pulmonary disease are risk factors for acid-base imbalances in the older adult. Renal failure patients have an altered acid-base balance; most commonly, a mixed type of metabolic acidosis (hyperchloremic, and of a high anion gap) is observed.

- **Option A:** Although antacid abuse is a risk factor for metabolic alkalosis, occasional antacid use will not cause imbalances. Antacid use won't normally lead to metabolic alkalosis. But if the patient has a weak or failing kidneys and uses a nonabsorbable antacid, it can bring on alkalosis. Nonabsorbable antacids contain aluminum hydroxide or magnesium hydroxide.
- **Option B:** A typical respiratory response to all types of metabolic alkalosis is hypoventilation leading to a pH correction towards normal. Increases in arterial blood pH depress respiratory centers. The resulting alveolar hypoventilation tends to elevate PaCO2 and restore arterial pH toward normal.
- **Option C:** MI is not related to metabolic alkalosis. Metabolic alkalosis is caused by too much bicarbonate in the blood. It can also occur due to certain kidney diseases. Hypochloremic alkalosis is caused by an extreme lack or loss of chloride, such as from prolonged vomiting.

12. A nurse is evaluating the developmental level of a two (2)-year-old. Which of the following does the nurse expect to observe in this child?

A. Uses a fork to eat

B. Uses a cup to drink

C. Uses a knife for cutting food

D. Pours own milk into a cup

Correct Answer: B. Uses a cup to drink

By age 2 years, the child can use a cup and can use a spoon correctly but with some spilling. Children can start learning how to use a cup without a lid when they are 9 months old. Most experts recommend introducing utensils between 10 and 12 months, as an almost-toddler starts to show signs that she's interested. A spoon should be first on the child's tray since it's easier to use.

- **Option A:** By ages 3 to 4, the child begins to use a fork. She'll have more success with a fork as her fine motor skills get a little sharper, starting around 15 months.
- **Option C:** By the end of the preschool period, the child should be able to begin to use a knife for cutting. The child can hold onto the helper's hands as they cut the food using the knife and fork.
- **Option D:** Preschoolers can pour their own drinks. Pouring is a great hand-eye exercise. It requires self-control in the form of motor control. Autonomy is something children crave at this age, and this is certainly an activity they can do on their own when appropriate parameters are set.

13. A patient arrives at the emergency department complaining of back pain. He reports taking at least 3 acetaminophen tablets every three hours for the past week without relief. Which of the following symptoms suggests acetaminophen toxicity?

A. Tinnitus

B. Diarrhea

C. Hypertension

D. Hepatic damage

Correct Answer: D. Hepatic damage

Acetaminophen in even moderately large doses can cause serious liver damage that may result in death. Immediate evaluation of liver function is indicated with consideration of N-acetylcysteine administration as an antidote. Acetaminophen is rapidly absorbed from the gastrointestinal (GI) tract and reaches therapeutic levels in 30 minutes to 2 hours. Overdose levels peak at 4 hours unless other factors could delay gastric emptying, such as a co-ingestion of an agent that slows gastric motility, or if the acetaminophen is in an extended-release form.

- **Option A:** Tinnitus is associated with aspirin overdose, not acetaminophen. Acetaminophen has an elimination half-life of 2 hours, but can be as long as 17 hours in patients with hepatic dysfunction. It is metabolized by the liver, where it is conjugated to nontoxic, water-soluble metabolites that are excreted in the urine.
- **Option B:** In the third stage (72 hours to 96 hours), liver dysfunction is significant with renal failure, coagulopathies, metabolic acidosis, and encephalopathy. Gastrointestinal (GI) symptoms reappear, and death is most common at this stage. The fourth stage (4 days to 3 weeks) is marked by recovery.
- **Option C:** Diarrhea and hypertension are not associated with acetaminophen. The diagnosis of acetaminophen toxicity is based on serum levels of the drug, even if there are no symptoms. Other laboratory studies needed include liver function tests (LFTs) and coagulation profile (PT/INR). If the ingestion is severe, LFTs can rise within 8 to 12 hours of ingestion. Normally LFTS remain elevated in the second stage at 18 to 72 hours.

14. Meryl, age 19, is highly dependent on her parents and fears leaving home to go away to college. Shortly before the semester starts, she complains that her legs are paralyzed and is rushed to the emergency department. When physical examination rules out a physical cause for her paralysis, the physician admits her to the psychiatric unit where she is diagnosed with conversion disorder. Meryl asks the nurse, "Why has this happened to me?" What is the nurse's best

response?

A. "You've developed this paralysis so you can stay with your parents. You must deal with this conflict if you want to walk again."

B. "It must be awful not to be able to move your legs. You may feel better if you realize the problem is psychological, not physical."

C. "Your problem is real but there is no physical basis for it. We'll work on what is going on in your life to find out why it's happened."

D. "It isn't uncommon for someone with your personality to develop a conversion disorder during times of stress."

Correct Answer: C. “Your problem is real but there is no physical basis for it. We’ll work on what is going on in your life to find out why it’s happened.”

The nurse must be honest with the client by telling her that the paralysis has no physiologic cause while also conveying empathy and acknowledging that her symptoms are real. The client will benefit from psychiatric treatment, which will help her understand the underlying cause of her symptoms. After the psychological conflict is resolved, her symptoms will disappear.

- **Option A:** Telling her that she has developed paralysis to avoid leaving her parents or that her personality caused her disorder wouldn’t help her understand and resolve the underlying conflict. Conversion disorder, also known as functional neurological symptom disorder (FND), is a psychiatric disorder characterized by symptoms affecting sensory or motor function. These signs and symptoms are inconsistent with patterns of known neurologic diseases or other medical conditions. Although conversion disorder has no organic basis, the symptoms significantly impact a patient’s ability to function.
- **Option B:** Saying that it must be awful not to be able to move her legs wouldn’t answer the client’s question; knowing that the cause is psychological wouldn’t necessarily make her feel better. Psychological, social, and biological factors can all contribute to, precipitate, or perpetuate conversion disorder. Often, there is a trauma, adverse life event, or acute/chronic stressor preceding symptoms of conversion disorder. Many patients with conversion disorder are found to have a history of childhood abuse, both emotional and sexual. Other psychological factors contributing to conversion disorder include poor coping skills and internal psychological conflicts.
- **Option D:** Patients with conversion disorder are more likely to have certain psychiatric disorders (depression, anxiety, and personality disorders) than patients with known neurologic conditions. They are also more likely to have a history of multiple somatic complaints, including symptoms like generalized fatigue, weakness, or pain, without a known cause.

15. The client with urolithiasis has a history of chronic urinary tract infections. The nurse concludes that this client most likely has which of the following types of urinary stones?

A. Calcium oxalate

B. Uric acid

C. Struvite

D. Cystine

Correct Answer: C. Struvite

Struvite stones commonly are referred to as infection stones because they form in urine that is alkaline and rich in ammonia, such as with a urinary tract infection. Struvite stones are also known as triple-phosphate (3 cations associated with 1 anion), infection (or infection-induced), phosphatic, and urease stones.

- **Option A:** Calcium oxalate stones result from increased calcium intake or conditions that raise serum calcium concentrations. Other, less common staghorn calculi can be composed of mixtures of calcium oxalate and calcium phosphate.
- **Option B:** Uric acid stones occur in clients with gout. Uric acid stones form when the levels of uric acid in the urine is too high, and/or the urine is too acidic (pH level below 5.5) on a regular basis. Uric acid can result from a diet high in purines, which are found especially in animal proteins such as beef, poultry, pork, eggs, and fish. The highest levels of purines are found in organ meats, such as liver and fish.
- **Option D:** Cystine stones are rare and occur in clients with a genetic defect that results in decreased renal absorption of the amino acid cystine. Cystine stones are caused by a rare disorder called “cystinuria.” The disorder causes a natural substance called “cystine” to leak into the urine. When there is too much cystine in the urine, kidney stones can form.

16. A client, 30 weeks pregnant, is scheduled for a biophysical profile (BPP) to evaluate the health of her fetus. Her BPP score is 8. What does this score indicate?

A. The fetus should be delivered within 24 hours.

B. The client should repeat the test in 24 hours.

C. The fetus isn’t in distress at this time.

D. The client should repeat the test in 1 week.

Correct Answer: C. The fetus isn’t in distress at this time.

The BPP evaluates fetal health by assessing five variables: fetal breathing movements, gross body movements, fetal tone, reactive fetal heart rate, and qualitative amniotic fluid volume. A normal response for each variable receives 2 points; an abnormal response receives 0 points. A score between 8 and 10 is considered normal, indicating that the fetus has a low risk of oxygen deprivation and isn’t in distress. A fetus with a score of 6 or lower is at risk for asphyxia and premature birth; this score warrants detailed investigation. The BPP may or may not be repeated if the score isn’t within normal limits.

- **Option A:** The biophysical profile is a test used to evaluate the well-being of the fetus. It is commonly done at the last trimester of pregnancy, but it does not indicate that the fetus should be delivered within 24 hours.
- **Option B:** If the score is 6, the health care provider will likely repeat the test within 24 hours.
- **Option D:** The test is most commonly done when there’s an increased risk of problems that could lead to complications or pregnancy loss. The health care provider will determine the necessity and timing of a biophysical profile based on whether the baby could survive if delivered early, the severity of the mother’s condition, and the risk of pregnancy loss.

17. In growing children, growth hormone deficiency results in short stature and very slow growth rates. Short stature may result from which of the following?

A. Anterior pituitary gland hypofunction

B. Posterior pituitary gland hyperfunction

C. Parathyroid gland hyperfunction

D. Thyroid gland hyperfunction

Correct Answer: A. Anterior pituitary gland hypofunction

Short stature usually results from diminished or deficient growth hormone, which is released from the anterior pituitary gland. Growth hormone production from the anterior pituitary is regulated by the stimulatory and inhibitory control of the hypothalamus. Hypothalamus produces growth hormone-releasing hormone that stimulates the somatotrophs of the anterior pituitary to secrete growth hormone.

- **Option B:** Posterior pituitary hyperfunction results in increased secretion of antidiuretic hormone or oxytocin, leading to a syndrome of inappropriate antidiuretic hormone secretion, marked by fluid retention and hyponatremia. SIADH is excess ADH production from the posterior pituitary or an ectopic source. Elevated levels result in excess water retention and hypervolemic hyponatremia.
- **Option C:** Parathyroid hypofunction leads to hypocalcemia. Parathyroid hormone deficiency, also called hypoparathyroidism, results in hypocalcemia, hyperphosphatemia, and increased neuromuscular irritability. Patients may present with myalgias, muscle spasms, and in extreme cases tetany.
- **Option D:** Thyroid hyperfunction causes increased secretion of thyroxine, triiodothyronine, and thyrocalcitonin, resulting in Graves' disease, marked by accelerated linear growth and early epiphyseal closure.

18. When the nurse on duty accidentally bumps the bassinet, the neonate throws out its arms, hands open, and begins to cry. The nurse interprets this reaction as indicative of which of the following reflexes?

A. Startle reflex

B. Babinski reflex

C. Grasping reflex

D. Tonic neck reflex

Correct Answer: A. Startle reflex

The Moro, or startle, reflex occurs when the neonate responds to stimuli by extending the arms, hands open, and then moving the arms in an embracing motion. The Moro reflex, present at birth, disappears at about age 3 months.

- **Option B:** Babinski reflex occurs after the sole of the foot has been firmly stroked. The big toe then moves upward or toward the top surface of the foot. The other toe fan out.
- **Option C:** Palmar grasp reflex appears around 16 weeks of gestation and can be elicited in preterm infants as young as 25 weeks of postconceptional age. To elicit the reflex, the infant is laid in a symmetrical supine and the examiner strokes the palm of the infant with his or her index finger. The response to this stimulus comprises two phases: finger closing and clinging.
- **Option D:** When a baby's head is turned to one side, the arm on that side stretches out and the opposite arm bends up at the elbow. The tonic neck reflex lasts until the infant is about 5 to 7 months old.

19. A 10-year-old client contracted severe acute respiratory syndrome (SARS) when traveling abroad with her parents. The nurse knows she must put on personal protective equipment to protect herself while providing care. Based on the mode of SARS transmission, which personal protective equipment should the nurse wear?

A. Gloves

B. Gown and gloves

C. Gown, gloves, and mask

D. Gown, gloves, mask, and eye goggles or eye shield

Correct Answer: D. Gown, gloves, mask, and eye goggles or eye shield

The transmission of SARS isn't fully understood. Therefore, all modes of transmission must be considered possible, including airborne, droplet, and direct contact with the virus. For protection from contracting SARS, any health care worker providing care for a client with SARS should wear a gown, gloves, mask, and eye goggles or an eye shield.

- **Option A:** For level 1 or standard infection control precaution wherein there is no suspected or known infectious agent, disposable gloves and disposable apron may be used. If there is a danger or risk of spraying or splashing, eye and face protection should be considered.
- **Option B:** Level 2 or direct/indirect contact precautions require the use of a disposable gown (which is fluid-resistant) and disposable gloves. This is used when there is a suspected or confirmed infectious agent spread by direct or indirect contact.
- **Option C:** Level 2 droplet precautions occur when there is a suspected or confirmed infectious agent spread by droplet route/ Personal protective equipment should include a disposable gown which is fluid-resistant, disposable gloves, and fluid-resistant surgical face mask and goggles.

20. The nurse in charge measures a patient's temperature at 102 degrees F. what is the equivalent Centigrade temperature?

A. 39 degrees C

B. 47 degrees C

C. 38.9 degrees C

D. 40.1 degrees C

Correct Answer: C. 38.9 degrees C

To convert Fahrenheit degrees to centigrade, use this formula:
C degrees = (F degrees – 32) x 5/9
C degrees = (102 – 32) 5/9
+ 70 x 5/9
38.9 degrees C

- **Option A:** Fahrenheit and Celsius both use different temperatures for the freezing and boiling points of water, and also use differently sized degrees. Water freezes at 0 degrees Celsius, and boils at 100 degrees C, while in Fahrenheit, water freezes at 32 degrees F and boils at 212 degrees

F.

- **Option B:** Use the relationship in degree size to convert between Celsius and Fahrenheit. Because Celsius degrees are larger than those in Fahrenheit, to convert from Celsius to Fahrenheit, multiply the Celsius temperature by 1.8, then add 32.
- **Option D:** The Fahrenheit and Celsius scales are the two most common temperature scales. However, the two scales use different measurements for the freezing and boiling points of water, and also use different sized degrees.

21. When performing a physical examination on an infant, the nurse in charge notes abnormally low-set ears. This finding is associated with:

A. Otogenous tetanus

B. Tracheoesophageal fistula

C. Congenital heart defects

D. Renal anomalies

Correct Answer: D. Renal anomalies

Normally the top of the ear aligns with an imaginary line drawn across the inner and outer canthus of the eye. Ears set below this line are associated with renal anomalies or mental retardation. This is due to the observation that auricular malformations often are associated with specific MCA syndromes that have high incidences of renal anomalies.

- **Option A:** Otogenic tetanus is a subtype of cephalic tetanus, usually limited to the muscles and nerves of the head and neck, but can also progress to a more generalized form. It usually is the result of tetanus spores gaining entry into the middle ear of otitis media through a tympanic membrane perforation.
- **Option B:** TEF is most commonly associated with other congenital anomalies, particularly cardiac defects. Esophageal atresia (EA) is a related congenital malformation with a similar presentation to TEF and can occur with or without the presence of a fistula.
- **Option C:** Low-set ears do not have congenital heart defects. Many cases of CHD are multifactorial and result from a combination of genetic predisposition and environmental risk factors. CCHD is usually isolated and sporadic, but it can also be associated with genetic syndromes. Approximately 15% to 20% of infants with CCHD are related to known chromosomal abnormalities, most of these are aneuploidies (trisomy 21, 13, and 18 and Turner syndrome).

22. Immediately after delivery, the nurse-midwife assesses the neonate's head for signs of molding. Which factors determine the type of molding?

A. Fetal body flexion or extension

B. Maternal age, body frame, and weight

C. Maternal and paternal ethnic backgrounds

D. Maternal parity and gravidity

Correct Answer: A. Fetal body flexion or extension

Fetal attitude—the overall degree of body flexion or extension—determines the type of molding in the head of a neonate.

- **Option B:** When a baby is born in a cephalic position, pressure on the head in the birth canal may mold the head into an oblong shape. The mother's age, body frame, and weight do not affect the pressure.
- **Option C:** There is research that indicates that infant head molding, the application of pressure or bindings to cranial bones to alter their shapes, is prevalent among various Caribbean, Latino, European, African American, Asian, and Native American groups.
- **Option D:** Infants born by primiparous women showed significantly higher degrees of molding of the head than those born by multiparous women.

23. A client tells the nurse that she plans to use the rhythm method of birth control. The nurse is aware that the success of the rhythm method depends on the:

A. Age of the client

B. Frequency of intercourse

C. Regularity of the menses

D. Range of the client's temperature

Correct Answer: C. Regularity of the menses

The success of the rhythm method of birth control is dependent on the client's menses being regular. Women are only fertile (an egg is present) for a few days each month. Women using the rhythm method monitor their body and analyze their past menstrual cycles to try to determine when their fertile days are. They can then either choose to not have sex during those days, or can use a "barrier" form of birth control, such as condoms or spermicide.

- **Option A:** The rhythm method is not dependent on the age of the client. The rhythm method works best for women whose cycles are consistent because it is easier to predict when she ovulates (releases an egg from her ovaries).
- **Option B:** Rhythm method is not successful when based entirely on the frequency of intercourse. Most women will have a period 14 to 16 days after ovulation, regardless of the length of their overall cycle. Counting backward from the day their period begins can be a good way to know when they ovulated.
- **Option D:** Basal temperature method relies on the client's temperature during ovulation period. The basal body temperature method is a method of natural family planning that requires only the purchase of a very accurate thermometer. The method, which calls for tracking the woman's body temperature on a daily basis, helps to determine which days of the month she is fertile.

24. Normal serum sodium concentration ranges from:

A. 120 to 125 mEq/L

B. 125 to 130 mEq/L

C. 136 to 145 mEq/L

D. 140 to 148 mEq/L

Correct Answer: C. 136 to 145 mEq/L

Normal serum sodium level ranges from 136 to 145 mEq/L. Sodium, which is an osmotically active anion, is one of the most important electrolytes in the extracellular fluid. It is responsible for maintaining the extracellular fluid volume, and also for regulation of the membrane potential of cells. Sodium is exchanged along with potassium across cell membranes as part of active transport.

- **Option A:** Sodium regulation occurs in the kidneys. The proximal tubule is where the majority of the sodium reabsorption takes place. In the distal convoluted tubule, sodium undergoes reabsorption. Sodium transport takes place via sodium-chloride symporters, which is by the action of the hormone aldosterone.
- **Option B:** Among the electrolyte disorders, hyponatremia is the most frequent. Diagnosis is when the serum sodium level less than 135 mmol/L. Hyponatremia has neurological manifestations. Patients may present with headache, confusion, nausea, delirium.
- **Option D:** Hypernatremia presents when the serum sodium levels greater than145 mmol/L. Symptoms of hypernatremia include tachypnea, sleeping difficulty, and feeling restless. Rapid sodium corrections can have serious consequences like cerebral edema and osmotic demyelination syndrome.

25. A nurse is caring for patients in the oncology unit. Which of the following is the most important nursing action when caring for a neutropenic patient?

A. Change the disposable mask immediately after use.

B. Change gloves immediately after use.

C. Minimize patient contact.

D. Minimize conversation with the patient.

Correct Answer: B. Change gloves immediately after use.

The neutropenic patient is at risk of infection. Changing gloves immediately after use protects patients from contamination with organisms picked up on hospital surfaces. This contamination can have serious consequences for an immunocompromised patient. Wear gloves when providing direct care; perform hand hygiene after properly disposing gloves.

- **Option A:** Changing the respiratory mask is desirable, but not nearly as urgent as changing gloves. Wear personal protective equipment (PPE) properly. Use masks, goggles, face shields to protect the mucous membranes of your eyes, mouth, and nose during procedures and in direct-care activities (e.g., suctioning secretions) that may generate splashes or sprays of blood, body fluids, secretions, and excretions.
- **Option C:** Place the patient in protective isolation if the patient is at high risk of infection. Protective isolation is set when the WBC indicates neutropenia. Provide surgical masks to visitors who are coughing and provide rationale to enforce usage. Instruct visitors to cover mouth and nose (by using the elbows to cover) during coughing or sneezing; use of tissues to contain respiratory secretions with immediate disposal to a no-touch receptacle; perform hand hygiene afterward.
- **Option D:** Minimizing conversations are not necessary and may cause nursing staff to miss changes in the patient's symptoms or condition. Educating visitors on the importance of preventing droplet transmission from themselves to others reduces the risk of infection.

26. A patient undergoing external radiation has developed a dry desquamation of the skin in the treatment area. The nurse knows that teaching about management of the skin reaction has been effective when the patient says

A. "I can use ice packs to relieve itching in the treatment area."

B. "I can buy a steroid cream to use on the itching area."

C. "I will expose the treatment area to a sun lamp daily."

D. "I will scrub the area with warm water to remove the scales."

Correct Answer: B. “I can buy a steroid cream to use on the itching area

- **Option B:** Steroid (over-the-counter [OTC] hydrocortisone) cream may be used to reduce itching in the area.
- **Options A and C:** Extreme heat or cold temperatures may injure the skin.
- **Option D:** Treatment areas should be cleaned gently to avoid further injury.

27. Which of the following is a compensatory response to decreased cardiac output?

A. Decreased BP.

B. Alteration in LOC.

C. Decreased BP and diuresis.

D. Increased BP and fluid retention.

Correct Answer: D. Increased BP and fluid retention

The body compensates for a decrease in cardiac output with a rise in BP, due to the stimulation of the sympathetic NS and an increase in blood volume as the kidneys retain sodium and water. Compensation may help the body adjust to the effects of heart failure in the short term. But over time it can make heart failure worse by further enlarging the heart and reducing the pumping ability of the heart.

- **Option A:** Blood pressure doesn’t initially drop in response to the compensatory mechanism of the body. The body’s hormone and nervous systems try to make up for this by increasing blood pressure, holding on to salt (sodium) and water in the body, and increasing heart rate. These responses are the body’s attempt to compensate for the poor blood circulation and backup of blood.
- **Option B:** Alteration in LOC will occur only if the decreased cardiac output persists. If the body senses that the brain and vital organs aren’t receiving enough blood, the sympathetic nervous system starts working to get more blood to the brain and organs. This system releases substances called catecholamines into the bloodstream. These substances cause the blood vessels to constrict and speed up the heart rate. At the same time, the arteries supplying the brain and vital organs widen to carry the increased blood flow.
- **Option C:** When the body thinks it needs more fluid in its blood vessels, it releases specific chemicals (renin, angiotensin, and aldosterone) that cause the blood vessels to constrict. In addition, these hormones cause the body to retain more sodium and water. This adds fluid to the circulatory system. This fluid becomes part of the blood circulating throughout the system.

28. A group of community nurses sees and plans care for various clients with different types of problems. Which of the following clients would they consider the most vulnerable to post-traumatic stress disorder?

A. An eight (8)-year-old boy with asthma who has recently failed a grade in school.

B. A 20-year-old college student with DM who experienced date rape.

C. A 40-year-old widower who has recently lost his wife to cancer.

D. A wife of an individual with a severe substance abuse problem.

Correct Answer: B. A 20-year-old college student with DM who experienced date rape

Post-traumatic stress disorder is caused by the experience of severe, specific trauma. Rape is a severely traumatic event. Posttraumatic stress disorder (PTSD) is a syndrome that results from exposure to real or threatened death, serious injury, or sexual assault. Following the traumatic event, PTSD is common and is one of the serious health concerns that is associated with comorbidity, functional impairment, and increased mortality with suicidal ideations and attempts.

- **Option A:** The development of posttraumatic stress disorder in individuals is linked to a large number of factors. These include experiencing a traumatic event such as a severe threat or a physical injury, a near-death experience, combat-related trauma, sexual assault, interpersonal conflicts, child abuse, or after a medical illness. Chronic PTSD occurs in patients who are unable to recover from the trauma due to maladaptive responses.
- **Option C:** The risk factors for the development of PTSD include biological and psychological factors such as gender (more prevalent in women), childhood adversities, pre-existing mental illness, low socioeconomic status, less education, lack of social support. Nature and the severity of the trauma are also accountable while determining the risk factors for PTSD.
- **Option D:** Although this situation is certainly stressful, they are not at the level of severe trauma. The symptoms of PTSD include persistently re-experiencing the traumatic event, intrusive thoughts, nightmares, flashbacks, dissociation(detachment from oneself or reality), and intense negative emotional (sadness, guilt) and physiological reaction on being exposed to the traumatic reminder.[1] Furthermore, problems with sleep and concentration, irritability, increased reactivity, increased startle response, hypervigilance, avoidance of traumatic triggers also occur.

29. Which of the following would be an appropriate expected outcome for an elderly client recovering from bacterial pneumonia?

A. A respiratory rate of 25 to 30 breaths per minute.

B. The ability to perform ADLs without dyspnea.

C. A maximum loss of 5 to 10 pounds of body weight.

D. Chest pain that is minimized by splinting the ribcage.

Correct Answer: B. The ability to perform ADL’s without dyspnea

An expected outcome for a client recovering from pneumonia would be the ability to perform ADLs without experiencing dyspnea. Determine patient’s response to activity. Note reports of dyspnea, increased weakness and fatigue, changes in vital signs during and after activities. Establishes patient’s capabilities and needs and facilitates choice of interventions.

- **Option A:** A respiratory rate of 25 to 30 breaths/minute indicates the client is experiencing tachypnea, which would not be expected on recovery. Assess and record respiratory rate and depth at least every 4 hours. The average rate of respiration for adults is 10 to 20 breaths per minute. It is important to take action when there is an alteration in the pattern of breathing to detect early signs of respiratory compromise.
- **Option C:** A weight loss of 5-10 pounds is undesirable; the expected outcome would be to maintain normal weight. Evaluate general nutritional state, obtain baseline weight. Presence of chronic conditions (COPD or alcoholism) or financial limitations can contribute to malnutrition, lowered resistance to infection, and/or delayed response to therapy.
- **Option D:** A client who is recovering from pneumonia should experience decreased or no chest pain. Assess pain characteristics: sharp, constant, stabbing. Investigate changes in character, location, or intensity of pain. Assess reports of pain with breathing or coughing.

30. You are developing a care plan for Sally, a 67 y.o. patient with hepatic encephalopathy. Which of the following do you include?

A. Administering a lactulose enema as ordered.

B. Encouraging a protein-rich diet.

C. Administering sedatives, as necessary.

D. Encouraging ambulation at least four times a day.

Correct Answer: A. Administering a lactulose enema as ordered.

You may administer the laxative lactulose to reduce ammonia levels in the colon. Elevated ammonia levels disrupt the balance of excitatory and inhibitory neurotransmitters, further exacerbating neurological and motor function decline (Felipo, 2013). Patients who have high ammonia levels can experience HE, but in chronic liver failure, a higher ammonia level does not predict a more severe degree of HE.

- **Option B:** Protein restriction is reserved for patients who are severely protein-intolerant or for very short periods for patients with GI bleeding until symptoms resolve (Amodio et al., 2013). Dairy and vegetable proteins are preferred but are usually much less palatable. A fiber-rich diet is recommended to encourage fecal ammonia excretion while avoiding diarrhea that could potentially induce HE in patients already taking lactulose.
- **Option C:** It is suggested to proceed with caution when prescribing and administering any opioids for pain management because of their high-risk effects on the patient with chronic liver disease like sedation, constipation, and confusion, which are precipitating factors to induce HE. Doses may need to be lower with longer intervals between these doses for patient safety.
- **Option D:** Asterixis (flapping tremor), muscle twitching, and hyperreflexia may be observed in patients with OHE. These can be accompanied by other neuromuscular impairments such as bradykinesia and hyperactive deep tendon reflexes. Bradykinesia means “slow movement” and can present as decreased facial expressions, increased stillness, or difficulty with performing repetitive tasks such as finger tapping.

31. The Nurse Practice Acts are an example of:

A. Statutory law

B. Common law

C. Civil law

D. Criminal law

Correct Answer: A. Statutory law

The NPA is then interpreted into regulations by each state and territorial nursing board with the authority to regulate the practice of nursing care and the power to enforce the laws. Fifty states, the District of Columbia and 4 United States (US) territories, have state boards of nursing (BON) that are responsible for regulating their individual NPA.

- **Option B:** Common law results from judicial decisions made in courts when individual legal cases are decided. Examples of common law include informed consent, the patient's right to refuse treatment, negligence, and malpractice.
- **Option C:** Civil laws protect the rights of individuals within our society and provide for fair and equitable treatment when civil wrongs or violations occur (Garner, 2006). The consequences of civil law violations are damages in the form of fines or specific performance of good works such as public service. An example of a civil law violation for a nurse is negligence or malpractice.
- **Option D:** Criminal laws protect society as a whole and provide punishment for crimes, which are defined by municipal, state, and federal legislation (Garner, 2006). There are two classifications of crimes. A felony is a crime of a serious nature that has a penalty of imprisonment for longer than 1 year or even death. A misdemeanor is a less serious crime that has a penalty of a fine or imprisonment for less than 1 year. An example of criminal conduct for nurses is a misuse of a controlled substance.

32. Which of the following findings in a woman would be consistent with a pregnancy of two months duration?

A. Weight gain of 6-10 lbs. And the presence of striae gravidarum.

B. Fullness of the breast and urinary frequency.

C. Braxton Hicks contractions and quickening.

D. Increased respiratory rate and ballottement.

Correct Answer: B. Fullness of the breast and urinary frequency.

The fullness of the breast is due to the increased amount of progesterone in pregnancy. The urinary frequency is caused by the compression of the urinary bladder by the gravid uterus which is still within the pelvic cavity during the first trimester.

- **Option A:** In the first trimester, most women don't need to gain much weight — which is good news if she is struggling with morning sickness. If the woman starts out at a healthy or normal weight, she needs to gain only about 1 to 4 pounds (0.5 to 1.8 kilograms) in the first few months of pregnancy.
- **Option C:** Braxton Hicks contractions are sporadic contractions and relaxation of the uterine muscle. Sometimes, they are referred to as prodromal or "false labor" pains. It is believed they start around 6 weeks gestation but usually are not felt until the second or third trimester of the pregnancy.
- **Option D:** Minute ventilation (V?E) starts to increase significantly (by up to 48%) during the first trimester of gestation, due to higher tidal volume (VT) with unchanged respiratory rate. This ventilatory pattern is then maintained throughout the course of pregnancy. Ballottement is a sharp

upward push against the uterine wall with a finger inserted into the vagina for diagnosing pregnancy by feeling the return impact of the displaced fetus also.

33. Nurse Judy knows that statistics show that in adolescent suicidal behavior:

A. Females use more dramatic methods than males.

B. Males account for more attempts than do females.

C. Females talk more about suicide before attempting it.

D. Males are more likely to use lethal methods than are females.

Correct Answer: D. Males are more likely to use lethal methods than are females

This finding is supported by research; females account for 90% of suicide attempts but males are three times more successful because of methods used. Suicide represents the tenth leading cause of death in the United States and the third leading cause of death for children, adolescents, and young adults. In 2014, there were 42,773 suicides in the United States.

- **Option A:** Of the 9.4 million adults with serious thoughts of suicide, 2.7 million reported they had made suicide plans, and 1.1 million made a nonfatal suicide attempt. Among the 1.1 million adults who attempted suicide in the past year, 0.9 million reported making suicide plans, and 0.2 million did not make suicide plans.
- **Option B:** Nearly one-third of adults who had serious thoughts of suicide made suicide plans, and about 1 in 9 adults who had serious thoughts of suicide made a suicide attempt. In other words, more than two-thirds of adults in 2014 who had serious thoughts of suicide did not make suicide plans, and 8 out of 9 adults who had serious thoughts of suicide did not attempt suicide.
- **Option C:** A study of the association between the provision of mental health services and suicide rates found that removing ligature points (places where things like ropes could be attached to) was associated with significant reductions in the overall psychiatric inpatient suicide rate and in the rate of inpatient suicide by hanging. Similarly, assessing other available sources of self-destructive implements such as pills and guns is critical.

34. The nurse has been teaching the role of diet in regulating blood pressure to a client with hypertension. Which meal selection indicates that the client understands his new diet?

A. Oatmeal, apple juice, dry toast, and coffee

B. Pancakes, ham, tomato juice, and coffee

C. Cornflakes, whole milk, banana, and coffee

D. Scrambled eggs, bacon, toast, and coffee

Correct Answer: A. Oatmeal, apple juice, dry toast, and coffee

- Option A: Oatmeal is low in sodium and high in fiber. Limiting sodium intake and increasing fiber helps to lower cholesterol levels, which reduces blood pressure.
- Answers B and D: They contain animal proteins that are high in both cholesterol and sodium.
- Option C: Cornflakes and whole milk are higher in sodium and are poor sources of fiber.

35. A 20-year-old young adult has been admitted to the hospital following a motor vehicle accident. During the assessment, the patient expresses concerns about their recent breakup and how it might be affecting their overall well-being. They mention feeling isolated from peers and struggling with forming close relationships. The patient's parents also share that their child has been distancing from family gatherings and often spends time alone. Based on Erik Erikson's psychosocial development stages and the described behaviors and concerns, the nurse recognizes that the young adult is primarily navigating which developmental stage?

A. Trust vs. mistrust

B. Initiative vs. guilt

C. Autonomy vs. shame

D. Intimacy vs. isolation

Correct Answer: D. Intimacy vs. isolation

For young adults, typically in their late teens to early twenties, the predominant stage is "Intimacy vs. isolation." In this stage, young adults seek to form close, intimate relationships with others. Success in this stage leads to strong relationships, while failure results in feelings of isolation and loneliness. The described behaviors and concerns of the patient, such as feeling isolated and struggling with forming close relationships, align with this stage.

- **Option A:** Trust vs Mistrust is the first stage of the psychosocial theory. This stage begins at birth and continues to approximately 18 months of age. During this stage, children learn whether or not they can trust the people around them.
- **Option B:** It is as children enter the preschool years (3-6 years old) that they begin the third stage of psychosocial development centered on initiative versus guilt. It is important for the kids to learn that they can exert power over themselves and the world.
- **Option C:** Autonomy vs Shame and doubt is the second stage of Erik Erikson's stages of psychosocial development. This stage occurs between the ages of 18 months to 3 years. According to Erikson, children at this stage are focused on developing a greater sense of control.

36. The RN has received her client assignment for the day shift. After making the initial rounds and assessing the clients, which client would the RN need to develop a care plan first?

A. A client who is ambulatory.

B. A client, who has a fever, is diaphoretic and restless.

C. A client scheduled for OT at 1300.

D. A client who just had an appendectomy and has just received pain medication.

Correct Answer: B. A client, who has a fever, is diaphoretic and restless.

This client's needs are a priority. Clinical judgment and prioritization of patient care is built on the nursing process. Nurses learn the steps of the nursing process in their foundational nursing course and utilize it throughout their academic and clinical careers to direct patient care and determine priorities.

- **Option A:** An ambulatory client would not be a priority. However, a thorough assessment should still be done to make sure that the client does not have any underlying diseases. In unfamiliar situations, patient prioritization should be approached as a structured process, highlighting risk factors that may contribute to a decline in the patient's condition and potential interventions that can reduce the risk of adverse outcomes (Jessee, 2019).
- **Option C:** The client does not have any emergent concerns based on the stem. Seasoned nurses are able to pull from their depth of knowledge and experience that allows them to act deductively and intuitively when prioritizing patient care.
- **Option D:** The client has already received pain medication, therefore she is not a priority. For expert nurses, the ability to prioritize based on these processes is predominately intuitive, and tasks are completed in a prioritized manner without much conscious thought.

37. Nurse Troy is aware that the most appropriate nursing diagnosis for a patient with Addison's disease is which of the following?

A. Excessive fluid volume

B. Risk for infection

C. Urinary retention

D. Hypothermia

Correct Answer: B. Risk for infection

Addison's disease decreases the production of all adrenal hormones, compromising the body's normal stress response and increasing the risk of infection. Other appropriate nursing diagnoses for a client with Addison's disease include Deficient fluid volume and Hyperthermia.

- **Option A:** Assess skin turgor and mucous membranes for signs of dehydration. The patient will have dry skin and mucous membranes. Tenting of the skin will occur. The tongue may have longitudinal furrows. A BP drop of more than 15 mm Hg when changing from supine to sitting position, with a concurrent elevation of 15 beats per min in HR, indicates reduced circulating fluids.
- **Option C:** Urinary retention isn't appropriate because Addison's disease causes polyuria. Assess color, concentration, and amount of urine. Urine volume will decrease, urine specific gravity will increase, and color will be darker. As sodium loss increases, extracellular fluid volume decreases. These interventions are necessary to prevent fluid volume deficit because the kidneys are unable to conserve sodium
- **Option D:** Hyperpyrexia can result from the hormonal and fluid imbalance and may be an early sign of crisis if accompanied by a sudden drop in BP. Administer antipyretics as needed for fever. This helps reduce the continuing sodium and water losses from the fever.

38. A patient has exacerbation of chronic obstructive pulmonary disease (COPD) manifested by shortness of breath; orthopnea: thick, tenacious secretions; and a dry hacking cough. An appropriate nursing diagnosis would be:

A. Ineffective airway clearance related to thick, tenacious secretions

B. Ineffective airway clearance related to dry, hacking cough

C. Ineffective individual coping to COPD

D. Pain related to immobilization of affected leg

Correct Answer: A. Ineffective airway clearance related to thick, tenacious secretions.

Thick, tenacious secretions, a dry, hacking cough, orthopnea, and shortness of breath are signs of ineffective airway clearance. Chronic obstructive pulmonary disease (COPD) is a common and treatable disease characterized by progressive airflow limitation and tissue destruction. It is associated with structural lung changes due to chronic inflammation from prolonged exposure to noxious particles or gases most commonly cigarette smoke. Chronic inflammation causes airway narrowing and decreased lung recoil. The disease often presents with symptoms of cough, dyspnea, and sputum production.

- **Option B:** Ineffective airway clearance related to dry, hacking cough is incorrect because the cough is not the reason for the ineffective airway clearance. COPD is an inflammatory condition involving the airways, lung parenchyma, and pulmonary vasculature. The process is thought to involve oxidative stress and protease-antiprotease imbalances. Emphysema describes one of the structural changes seen in COPD where there is the destruction of the alveolar air sacs (gas-exchanging surfaces of the lungs) leading to obstructive physiology.
- **Option C:** Ineffective individual coping related to COPD is wrong because the etiology for a nursing diagnosis should not be a medical diagnosis (COPD) and because no data indicate that the patient is coping ineffectively. In emphysema, an irritant (e.g., smoking) causes an inflammatory response. Neutrophils and macrophages are recruited and release multiple inflammatory mediators. Oxidants and excess proteases leading to the destruction of the air sacs. The protease-mediated destruction of elastin leads to a loss of elastic recoil and results in airway collapse during exhalation.
- **Option D:** Pain related to immobilization of affected legs would be an appropriate nursing diagnosis for a patient with a leg fracture. COPD will typically present in adulthood and often during the winter months. Patients usually present with complaints of chronic and progressive dyspnea, cough, and sputum production. Patients may also have wheezing and chest tightness. While a smoking history is present in most cases, there are many without such history.

39. What is the best source to use when conducting a level I systematic meta-analysis of the literature?

A. An electronic database

B. Doctoral dissertations

C. The Cochrane Statistical Methods

D. An electronic database and Doctoral dissertations

Correct Answer: C. The Cochrane Statistical Methods

Systematic reviews and meta-analyses are situated at the top of what is known as the “Evidence Pyramid”. Systematic reviews and meta-analyses are considered to be the highest-quality evidence on a research topic because their study design reduces bias and produces more reliable findings. The Statistical Methods Group (SMG) (Cochrane Methods Statistics) is a forum where all statistical issues related to the work of Cochrane are discussed.

- **Option A:** A systematic review is a high-level overview of primary research on a particular research question that systematically identifies, selects, evaluates, and synthesizes all high-quality research evidence relevant to that question in order to answer it. In other words, it provides an exhaustive summary of the scholarly literature related to a particular research topic or question.

- **Option B:** A systematic review is often written by a panel of experts after reviewing all the information from both published and unpublished studies. The comprehensive nature of a systematic review distinguishes it from traditional literature reviews which typically examine a much smaller set of research evidence and present it from a single author's perspective.
- **Option D:** Not all systematic reviews include meta-analysis, but all meta-analyses are found in systematic reviews. Simply put, a systematic review refers to the entire process of selecting, evaluating, and synthesizing all available evidence, while the term meta-analysis refers to the statistical approach to combining the data derived from a systematic review.

40. A client 12 weeks' pregnant came to the emergency department with abdominal cramping and moderate vaginal bleeding. Speculum examination reveals 2 to 3 cm cervical dilation.The nurse would document these findings as which of the following?

A. Threatened abortion

B. Imminent abortion

C. Complete abortion

D. Missed abortion

Correct Answer: B. Imminent abortion

Cramping and vaginal bleeding coupled with cervical dilation signify that termination of the pregnancy is inevitable and cannot be prevented. Thus, the nurse would document an imminent abortion.

- **Option A:** In a threatened abortion, cramping and vaginal bleeding are present, but there is no cervical dilation. The symptoms may subside or progress to abortion.
- **Option C:** In a complete abortion all the products of conception are expelled.
- **Option D:** A missed abortion is early fetal intrauterine death without expulsion of the products of conception.

41. Clients with chronic illnesses are more likely to get pneumonia when which of the following situations is present?

A. Dehydration

B. Group living

C. Malnutrition

D. Severe periodontal disease

Correct Answer: B. Group living

Clients with chronic illnesses generally have poor immune systems. Often, residing in group living situations increases the chance of disease transmission. Pneumonia is a fairly prevalent disease and carries a heavy burden in all populations. A study carried out by the US Centers for Disease Control and Prevention (CDC) aimed at estimating its burden in North America found that CAP accounted for the eighth leading cause of mortality in the United States and the seventh leading cause of mortality in Canada after adjusting for various gender and age differences.

- **Option A:** Pneumonia can also cause dehydration from fever and decreased thirst and appetite, which may require treatment with extra fluids intravenously. Potential benefits of fluids are replacing fluid lost because of fever or rapid breathing, treating dehydration, and reducing the viscosity of mucus.
- **Option C:** Pneumonia is common in malnourished children and is frequently associated with fatal outcomes, especially in children younger than 24 months of age. Studies consistently reported a two- to threefold greater risk of mortality in cases with pneumonia associated with malnutrition. Therefore, pneumonia and malnutrition are two of the biggest killers in childhood diseases.
- **Option D:** Various pathogenic bacteria have been found in patients with deep periodontal pockets. The association between periodontal disease and pneumonia may be due to colonization by pathogenic bacteria in the periodontal pocket, as inhalation of a pathogen is considered a risk factor for pneumonia.

42. A nurse is attending to a 35-year-old patient with a history of asthma who presents to the emergency department in the midst of an acute asthma exacerbation. The patient, who was initially wheezing loudly, suddenly has no audible wheezing and the nurse cannot auscultate breath sounds. The patient appears anxious and is using accessory muscles to breathe. Considering the change in respiratory status, what is the most likely explanation for the absence of wheezing?

A. The asthma attack has resolved.

B. The airways are so constricted that air cannot pass through.

C. The inflammation within the airways has subsided.

D. Fine crackles have replaced the wheezes due to fluid in the airways.

E. The patient is holding their breath subconsciously due to anxiety.

F. A foreign body has obstructed the airway passage.

Correct Answer: B. The airways are so swollen that no air cannot get through.

This indicates that the airway constriction has worsened to a critical level, often resulting in a silent chest, which is a sign of a severe and life-threatening asthma attack. Immediate intervention is necessary to open the airways and restore adequate ventilation.

43. A mother is so worried that her son took an unknown amount of children's chewable vitamins at an unknown time. While in the ED, the child is alert and asymptomatic. What information should be directly stated to the physician?

A. The child was nauseated and vomited before arriving in the ED.

B. The child has been managed multiple times for unexpected injuries.

C. The child has been treated many times for the ingestion of toxic substances.

D. The ingested children's chewable vitamins contain iron.

Correct Answer: D. The ingested children's chewable vitamins contain iron.

Iron is a toxic substance that can lead to severe bleeding, shock, hepatic failure, and coma. The antidote that can be used for severe cases of iron poisoning is deferoxamine. Iron poisoning is one of the most common toxic ingestion and one of the most deadly among children. Failure to diagnose and treat iron poisoning can have serious consequences including multi-organ failure and death.

- **Option A:** During the first stage (0.5 to 6 hours), the patient mainly exhibits gastrointestinal (GI) symptoms including abdominal pain, vomiting, diarrhea, hematemesis, and hematochezia. The second stage (6 to 24 hours) represents an apparent recovery phase, as the patient's GI symptoms may resolve despite toxic amounts of iron absorption.
- **Option B:** This information needs further investigation but will not change the immediate diagnostic testing or treatment plan. Patients who have GI symptoms that resolve after a short period of time and have normal vital signs require supportive care and an observation period, as it may represent the second stage of iron toxicity.
- **Option C:** Patients who are symptomatic or demonstrate signs of hemodynamic instability require aggressive management and admission to an intensive care unit. Deferoxamine, a chelating agent that can remove iron from tissues and free iron from plasma, is indicated in patients with systemic toxicity, metabolic acidosis, worsening symptoms, or a serum iron level predictive of moderate or severe toxicity.

44. The definition of nihilistic delusions is:

A. A false belief about the functioning of the body.

B. Belief that the body is deformed or defective in a specific way.

C. False ideas about the self, others, or the world

D. The inability to carry out motor activities.

Correct Answer: C. False ideas about the self, others, or the world.

Nihilistic delusions are false ideas about the self, others, or the world. Nihilistic delusions, also known as délires de négation, are specific psychopathological entities characterized by the delusional belief of being dead, decomposed or annihilated, having lost one's own internal organs or even not existing entirely as a human being.

- **Option A:** Somatic delusions involve a false belief about the functioning of the body. Of the delusional symptoms, somatic delusions-those that pertain to the body-are rather rare. Somatic delusions are defined as fixed false beliefs that one's bodily function or appearance is grossly abnormal. They are a poorly understood psychiatric symptom and pose a significant clinical challenge to clinicians.
- **Option B:** Body dysmorphic disorder is characterized by a belief that the body is deformed or defective in a specific way. People who have body dysmorphic disorder (BDD) think about their real or perceived flaws for hours each day. They can't control their negative thoughts and don't believe people who tell them that they look fine. Their thoughts may cause severe emotional distress and interfere with their daily functioning. They may miss work or school, avoid social situations and isolate themselves, even from family and friends, because they fear others will notice their flaws.
- **Option D:** Apraxia is the inability to carry out motor activities. Apraxia is a motor disorder caused by damage to the brain (specifically the posterior parietal cortex or corpus callosum) in which the individual has difficulty with the motor planning to perform tasks or movements when asked, provided that the request or command is understood and the individual is willing to perform the task. The nature of the brain damage determines the severity, and the absence of sensory loss or paralysis helps to explain the level of difficulty.

45. When caring for a client who is receiving phenytoin and warfarin (Coumadin), the nurse would expect which of the following drug-drug interactions?

A. Decreased effectiveness of warfarin

B. Increased effectiveness of phenytoin

C. Increased effectiveness of warfarin.

D. Decreased effectiveness of phenytoin.

Correct Answer: A. Decreased effectiveness of warfarin

The interaction will reduce the effectiveness of warfarin. Phenytoin, carbamazepine and phenobarbital are potent inducers of the cytochrome P450 system, and their interactions with warfarin have been known for decades. These drugs can substantially increase the rate at which warfarin is metabolized and thus reduce the effect of a previously adjusted dose.

- **Option B:** Using warfarin together with phenytoin may cause bleeding more easily. It may also increase phenytoin levels. Phenytoin levels and prothrombin time or International Normalized Ratio (INR) should be monitored whenever the dosage is changed or discontinued.
- **Option C:** Sudden withdrawal of any of these drugs may decrease the rate at which warfarin is metabolized and put a patient taking a combination of these drugs at an increased risk of bleeding. Antiepileptic drugs are not only prescribed for epilepsy, which is estimated to affect 200 000 Canadians.
- **Option D:** Despite the approval of new anticoagulants within the past several years, warfarin continues to be commonly used. Thus, awareness of drug interactions involving warfarin continues to be relevant. The impact of phenytoin on warfarin has been reported previously in the literature to potentiate the anticoagulant effect or interact in a biphasic manner.

46. After suffering an acute MI, a client with a history of type 1 diabetes is prescribed metoprolol (Lopressor) I.V. Which nursing interventions are associated with I.V. administration of metoprolol? Select all that apply.

A. Monitor glucose levels closely.

B. Monitor for heart block and bradycardia.

C. Monitor blood pressure closely.

D. Mix the drug in 50 ml of dextrose 5% in water and infuse over 30 minutes.

E. Be aware that the drug is not compatible with morphine.

Correct Answer: A, B, & C.

Metoprolol is a cardioselective beta-1-adrenergic receptor inhibitor that competitively blocks beta1-receptors with minimal or no effects on beta-2 receptors at oral doses of less than 100 mg in adults. It decreases cardiac output by negative inotropic and chronotropic effects.

- **Option A:** Metoprolol masks the common signs of hypoglycemia; therefore, glucose levels should be monitored closely in diabetic clients. The mechanism responsible for ?-blocker–induced hypoglycemia involves inhibition of hepatic glucose production, which is promoted by sympathetic

nervous stimulation. In addition, adrenergic counter-regulation is diminished, resulting in a reduction in glycogenolysis.

- **Option B:** When used to treat an MI, metoprolol is contraindicated in clients with heart rates less than 45 beats/minute and any degree of heart block, so the nurse should monitor the client for bradycardia and heart block.
- **Option C:** Metoprolol masks common signs and symptoms of shock, such as decreased blood pressure, so blood pressure should also be monitored closely. Beta-blockers, including atenolol and metoprolol, may mask the signs of tachycardia and diaphoretic skin seen in patients in shock.
- **Option D:** The nurse should give the drug undiluted by direct injection. Lopressor, metoprolol tartrate USP, is a selective betai-adrenoreceptor blocking agent, available in 5-mL ampoule for intravenous administration. Each ampul contains a sterile solution of metoprolol tartrate USP, 5 mg, and sodium chloride USP, 45 mg, and water for injection USP.
- **Option E:** Although metoprolol should not be mixed with other drugs, studies have shown that it is compatible when mixed with morphine sulfate or when administered with alteplase infusion at a Y-site connection.

47. Which of the following types of cardiomyopathy can be associated with childbirth?

A. Dilated

B. Hypertrophic

C. Myocarditis

D. Restrictive

Correct Answer: A. Dilated

Although the cause isn't entirely known, cardiac dilation and heart failure may develop during the last month of pregnancy or the first few months after birth. The condition may result from a pre existing cardiomyopathy not apparent prior to pregnancy. Peripartum cardiomyopathy (PPCM), also known as postpartum cardiomyopathy, is an uncommon form of heart failure that happens during the last month of pregnancy or up to five months after giving birth. Cardiomyopathy literally means heart muscle disease.

- **Option B:** Hypertrophic cardiomyopathy is an abnormal symmetry of the ventricles that has an unknown etiology but a strong familial tendency. Hypertrophic cardiomyopathy (HCM) is a genetic (autosomal dominant) heart muscle disease caused by a mutation in sarcomere protein genes which encodes for elements of the contractile machinery of the heart.
- **Option C:** Myocarditis isn't specifically associated with childbirth. It is believed that myocarditis (and its complications) are largely immune-mediated. For example, in infectious etiologies, the microbial agent gains entry through the respiratory or gastroenteric tract and then binds to its specific receptor in the heart. This leads to intracellular replication, resulting in cell damage and lysis.
- **Option D:** Restrictive cardiomyopathy indicates constrictive pericarditis; the underlying cause is usually myocardial. There are several causes of restrictive cardiomyopathy, including infiltrative diseases, storage diseases, and a variety of systemic diseases. Infiltrative diseases are pathologies that lead to a build-up of a substance in the myocardium.

48. A male client visits the physician's office for treatment of a skin disorder. As a primary treatment, the nurse expects the physician to prescribe:

A. An I.V. corticosteroid

B. An I.V. antibiotic

C. An oral antibiotic

D. A topical agent

Correct Answer: D. A topical agent

Although many drugs are used to treat skin disorders, topical agents — not I.V. or oral agents — are the mainstay of treatment. Topical corticosteroids play a major role in the treatment of many dermatologic conditions. They are FDA-approved and indicated for the use of inflammatory and pruritic presentations of dermatologic conditions.

- **Option B:** The active ingredient, or drug, in a topical preparation is mixed with an inactive ingredient (called the vehicle). The vehicle determines the consistency of the product (for example, thick and greasy or light and watery) and whether the active ingredient remains on the surface or penetrates the skin.
- **Option C:** Topical drugs (drugs applied directly to the skin) are a mainstay of treating skin disorders. Systemic drugs are taken by mouth or given by injection and are distributed throughout the body. Rarely, when a high concentration of a drug is needed at the affected area, a doctor injects the drug just under the skin (intradermal injection).
- **Option D:** In addition, many preparations are available in different strengths (concentrations). Choice of vehicle depends on where the drug will be applied, how it will look, and how convenient it is to apply and leave on. Creams, the most commonly used preparations, are emulsions of oil in water, meaning they are primarily water with an oil component. (An ointment is the opposite, some water mixed mostly with oil.) Creams are easy to apply and appear to vanish when rubbed into the skin. They are relatively non-irritating.

49. For a female client with newly diagnosed cancer, the nurse formulates a nursing diagnosis of Anxiety related to the threat of death secondary to cancer diagnosis. Which expected outcome would be appropriate for this client?

A. "Client stops seeking information."

B. "Client uses any effective method to reduce tension."

C. "Client doesn't guess at prognosis."

D. "Client verbalizes feelings of anxiety."

Correct Answer: D. "Client verbalizes feelings of anxiety."

- **Option D:** Verbalizing feelings is the client's first step in coping with the situational crisis. It also helps the health care team gain insight into the client's feelings, helping guide psychosocial care.
- **Option A:** Seeking information can help a client with cancer gain a sense of control over the crisis.
- **Option B:** This is undesirable because some methods of reducing tension, such as illicit drug or alcohol use, may prevent the client from coming to terms with the threat of death as well as cause physiological harm.

- **Option C:** Suppressing speculation may prevent the client from coming to terms with the crisis and planning accordingly.

50. A nurse obtained a client's pulse and found the rate to be above normal. The nurse document these findings as:

A. Tachypnea

B. Hyperpyrexia

C. Arrhythmia

D. Tachycardia

Correct Answer: D. Tachycardia

Tachycardia means rapid heart rate. Tachycardia refers to a heart rate that's too fast. How that's defined may depend on age and physical condition. Generally speaking, for adults, a heart rate of more than 100 beats per minute (BPM) is considered too fast.

- **Option A:** Tachypnea refers to rapid respiratory rate. Tachypnea is a respiration rate greater than normal, resulting in abnormally rapid breathing. In adult humans at rest, any respiratory rate between 12 and 20 breaths is normal and tachypnea is indicated by a rate greater than 20 breaths per minute.
- **Option B:** Hyperpyrexia means increase in temperature. Hyperpyrexia is another term for a very high fever. The medical criterion for hyperpyrexia is when someone is running a body temperature of more than 106.7°F or 41.5°C. Hyperpyrexia is an emergency that needs immediate attention from a medical professional.
- **Option C:** Arrhythmia means irregular heart rate. An arrhythmia is a problem with the rate or rhythm of the heartbeat. During an arrhythmia, the heart can beat too fast, too slowly, or with an irregular rhythm. When a heart beats too fast, the condition is called tachycardia. When a heart beats too slowly, the condition is called bradycardia.

51. Patrick, a healthy adolescent has meningitis and is receiving I.V. and oral fluids. The nurse should monitor this client's fluid intake because fluid overload may cause:

A. Dehydration

B. Hypovolemic shock

C. Cerebral edema

D. Heart failure

Correct Answer: C. Cerebral edema

Due to the inflammation of the meninges, the client is vulnerable to developing cerebral edema and increased intracranial pressure. Hyponatremic solutions (e.g. 4% dextrose and one-fifth normal saline), which deliver excess free water, may worsen hyponatremia and increase the risk of cerebral edema, and have no place in the management of meningitis.

- **Option A:** Fluid overload won't cause dehydration. Children with meningitis require careful and regular monitoring of clinical signs of hydration state, including signs of overhydration, serum

sodium, and laboratory markers of hypovolemia. Under most circumstances, any intravenous fluids given to a child with meningitis should be isonatremic e.g. Plasma-Lyte 148 or 0.9% sodium chloride (normal saline) with additional glucose.

- **Option B:** Hypovolemic shock would occur with an extreme loss of fluid of blood. Clinical signs of shock or hypovolemia are hypotension, poor peripheral perfusion, cool pale extremities, tachycardia with low volume pulses, high blood lactate or large base deficit. Children with more than one of these signs should be given 10-20ml per kg of normal saline as a bolus.
- **Option D:** It would be unusual for an adolescent to develop heart failure unless the overhydration is extreme. Bacterial meningitis can cause overhydration by preventing the body from eliminating fluids the way it should. This can lead to hyponatremia, an electrolyte disturbance in which the sodium concentration in the blood plasma is lower than normal.

52. Dr. Rodriguez is managing the care of Mr. Hernandez, a 60-year-old retired firefighter with a known diagnosis of gout. However, complicating Mr. Hernandez's case is his medical history of peptic ulcer disease, which has caused recurrent hospitalizations over the past few years. Given the need to manage his gout for pain while minimizing the risk to his gastrointestinal system, which medication should the nurse anticipate being prescribed for gout management?

A. Colchicine

B. Allopurinol

C. Naproxen

D. Celecoxib

Correct Answer: D. Celecoxib.

Celecoxib is a selective COX-2 inhibitor that provides pain relief without significantly affecting the stomach lining, making it a suitable choice for patients with a history of peptic ulcer disease.

- **Option A:** Colchicine is often used for acute gout flares and as prophylaxis during the initiation of urate-lowering therapy. It does not have anti-inflammatory properties like NSAIDs but can reduce gouty inflammation. It would be a safer choice for someone with a history of peptic ulcer disease than NSAIDs. However, it's not the primary drug for long-term uric acid level management. Colchicine can cause gastrointestinal side effects.
- **Option B:** Allopurinol is not contraindicated in peptic ulcer disease but does not specifically address pain relief. Allopurinol is a xanthine oxidase inhibitor and is used for long-term management of gout to reduce the levels of uric acid.
- **Option C:** NSAIDs are commonly used to treat the pain and inflammation of gout attacks. However, they can irritate the stomach lining and might exacerbate peptic ulcers, so they would likely be avoided in a patient with a history of peptic ulcer disease.

53. Amidst a hectic morning shift at the pediatric nephrology unit, Nurse Kai is assigned to closely monitor the progress of 7-year-old Isabella who has been grappling with acute post-streptococcal glomerulonephritis (APSGN) for the past week. The medical team has been steadfastly managing her condition with a regimen of antibiotics, corticosteroids, and supportive measures. The

parents, although distressed, are showing unwavering support and are keenly interested in understanding the trajectory of their daughter's recovery. They are closely observing Isabella and are yearning for any positive sign indicating an improvement in her condition. Nurse Kai, with his expertise, knows that certain clinical manifestations may herald improvement in APSGN. He meticulously evaluates Isabella's clinical parameters and discusses the findings with the medical team and the parents. During his next interaction with Isabella's parents, Nurse Kai plans to explain the significance of certain clinical findings as potential early signs of improvement in APSGN. Among the following findings, which one does Nurse Kai identify as the earliest sign of improvement in a child with acute post-streptococcal glomerulonephritis?

A. Increased urine output

B. Increased appetite

C. Increased energy level

D. Decreased diarrhea

E. Decreased blood pressure

F. Improved urine color clarity

G. Decreased edema

Correct Answer: A. Increased urine output
Increased urine output: Increased urine output is often the earliest sign of renal recovery in APSGN. It indicates that the glomerular filtration rate is improving and the kidneys are better able to excrete fluid. Nurse Kai, in elucidating the dynamics of APSGN recovery to Isabella's parents, underscores the pivotal significance of an increased urine output as the earliest sign of amelioration in APSGN. This meticulous explanation helps in allaying the anxieties of Isabella's parents and fosters a better understanding of the ongoing recovery process.

- **Option B:** While increased appetite may indicate overall improvement, it is not as specific to renal function recovery as increased urine output is.
- **Option C:** Like appetite, an increased energy level may be a positive sign of recovery but is not specifically tied to renal function improvement.
- **Option D:** Diarrhea is not a typical symptom of APSGN; therefore, its resolution would not be a direct indicator of improvement in this renal condition.
- **Option E:** While decreasing blood pressure can be a sign of improving renal function especially if hypertension was a symptom, it often follows the increase in urine output, making it a subsequent rather than an earliest sign of improvement.
- **Option F:** Improvement in urine color clarity can indicate decreasing hematuria and proteinuria which is a positive sign, but usually follows after an increase in urine output.
- **Option G:** Decreased edema is a positive sign of improvement in APSGN, indicating better fluid management by the kidneys, however, it often follows increased urine output.

54. When serum calcium levels rise, which of the following hormones is secreted?

A. Aldosterone

B. Renin

C. Parathyroid hormone

D. Calcitonin

Correct Answer: D. Calcitonin

When calcium levels rise, calcitonin is secreted from the thyroid; this hormone moves calcium from plasma into bone. In response to hypercalcemia, calcitonin is secreted by the parafollicular C cells. Calcitonin lowers serum calcium by decreasing renal calcium and phosphorus reabsorption and also by decreasing bone reabsorption. Calcitonin is not significant in overall calcium homeostasis, but it is an important therapeutic option.

- **Option A:** Aldosterone enhances renal calcium reabsorption by two types of channels. Reabsorption by the distal nephron. The present in vitro experiments investigated the effect of the hormone on calcium (Ca2+) transport by the luminal membrane of the rabbit nephron, independent of any systemic influence.
- **Option B:** Renin secretion is mainly dependent on cyclic AMP formation. Cyclic AMP availability is the net effect of positive adenylyl cyclase activity and competing degradative activity of calmodulin-activated phosphodiesterase. Increasing intracellular calcium concentrations decrease net cyclic AMP formation by dampening adenylate cyclase and enhancing phosphodiesterase activities.
- **Option C:** Parathyroid hormone is secreted in response to lowered calcium levels; this hormone moves calcium from bone into plasma. The main cause of hypercalcemia is an excess parathyroid hormone (PTH). PTH-mediated causes include adenoma/hyperplasia of the gland, familial hypocalciuric hypercalcemia, and multiple endocrine neoplasia syndromes (type1, 2A).

55. Nurse Renner is about to perform Romberg's test on Pierro. To ensure the latter's safety, which intervention should nurse Renner implement?

A. Allowing the client to keep his eyes open.

B. Having the client hold on to furniture.

C. Letting the client spread his feet apart.

D. Standing close to provide support.

Correct Answer: D. Standing close to provide support.

During Romberg's test, the client is asked to stand with feet together and eyes shut and still maintain balance with the minimum of sway. If the client loses his balance, the nurse standing close to provide support, such as having an arm close around his shoulder, can prevent a fall. Allowing the client to keep his eyes open, spread his feet apart, or hang on to a piece of furniture interferes with the proper execution of the test and yields invalid results.

- **Option A:** The clinician asks the patient to first stand quietly with eyes open, and subsequently with eyes closed. The patient tries to maintain his balance. For safety, it is essential that the observer stand close to the patient to prevent potential injury if the patient were to fall. When the patient closes his eyes, he should not orient himself by light, sense or sound, as this could influence the test result and cause a false positive outcome.

- **Option B:** In the Romberg test, the patient stands upright and asked to close his eyes. A loss of balance is interpreted as a positive Romberg sign. The Romberg test is positive when the patient is unable to maintain balance with their eyes closed. Losing balance can be defined as increased body sway, placing one foot in the direction of the fall, or even falling.
- **Option C:** The patient is asked to remove his shoes and stand with his two feet together. The arms are held next to the body or crossed in front of the body. If the clinician observes that the patient is able to stand for long periods of time with the eyes closed, it is evident that the patient's balance and proprioceptive deficits have decreased.

56. A male client with a tentative diagnosis of hyperosmolar hyperglycemic nonketotic syndrome (HHNS) has a history of type 2 diabetes that is being controlled with an oral diabetic agent, tolazamide (Tolinase). Which of the following is the most important laboratory test for confirming this disorder?

A. Serum potassium level

B. Serum sodium level

C. Arterial blood gas (ABG) values

D. Serum osmolarity

Correct Answer: D. Serum osmolarity

Serum osmolarity is the most important test for confirming HHNS; it's also used to guide treatment strategies and determine evaluation criteria. A client with HHNS typically has a serum osmolarity of more than 350 mOsm/L. The serum osmolality is determined by the formula 2Na + Glucose /18 + BUN / 2.8. The resultant hyperglycemia increases the serum osmolarity to a significant degree. The glucose level in HHS is usually above 600 mg/dL. Hyperglycemia also creates an increase in the osmotic gradient with free water drawn out from the extravascular space from the increased osmotic gradient.

- **Option A:** Serum potassium, serum sodium, and ABG values are also measured, but they aren't as important as serum osmolarity for confirming a diagnosis of HHNS. In HHS however, because insulin is still being produced by the beta cells in the pancreas, the generation of ketone bodies is minimal. Insulin inhibits ketogenesis. That aside, in HHS there is a higher level of insulin with an associated lower level of glucagon. Therefore, ketonemia and acidemia are very mild in HHS.
- **Option B:** A client with HHNS typically has hypernatremia and osmotic diuresis. The effect of the increased serum osmolarity on the brain can be very profound. To preserve the intracellular volume, the brain produces idiogenic osmoles. Idiogenic osmoles are substances that are osmotically active. The net effect of the production of these substances is to prevent fluid from moving from the intracellular space into extracellular space and maintain a balanced equilibrium.
- **Option C:** ABG values reveal acidosis, and the potassium level is variable. Beta oxidation of fatty acids produces ketone bodies: acetone, acetoacetate, and beta oxobutyric acid. Accumulation of these substrates produces ketonemia and acidemia. Acidemia from ketone bodies stimulates the kidney to retain bicarbonate ions to neutralize the hydrogen ions. This accounts for the low serum bicarbonate level in DKA.

57. After 3 days of breastfeeding, a postpartum patient reports nipple soreness. To relieve her discomfort, the nurse should suggest that she:

A. Apply warm compresses to her nipples just before feeding.

B. Lubricate her nipples with expressed milk before feeding.

C. Dry her nipples with a soft towel after feeding.

D. Apply soap directly to her nipples, and then rinse.

Correct Answer: B. Lubricate her nipples with expressed milk before feeding

Measures that help relieve nipple soreness in a breastfeeding patient include lubricating the nipples with a few drops of expressed milk before feedings, applying ice compresses just before feeding, letting the nipples air dry after feedings, and avoiding the use of soap on the nipples.

- **Option A:** Cold compresses are applied instead of warm because it reduces swelling and pain. Use a piece of fabric between the skin and the cold compress. Never apply an ice pack directly to the skin.
- **Option C:** Air drying prevents the clothing from sticking to and irritating the breast.
- **Option D:** Soap removes the nipples' natural lubricants and will dry them out.

58. A pediatric client with burns to the hands and arms has dressing changes with Sulfamylon (mafenide acetate) cream. The nurse is aware that the medication:

A. Will cause gray staining on the surrounding skin

B. Produces a cooling sensation when applied

C. Produces a burning sensation when applied

D. Will cause unusual hair growth in the treated areas

Correct Answer: C. Produces a burning sensation when applied

- Option C: Sulfamylon is a topical agent indicated for patients with a second and third-degree burn. It produces a painful burning sensation upon application so the client should receive pain medication 30 minutes before the application.
- Option A: Gray or blue-black discoloration of the skin is a side effect of repeated application of silver nitrate.
- Option B: The cooling sensation is associated with the application of Silvadene.
- Option D: Unusual hair growth is related to the chronic application of topical steroids.

59. 12-year-old Caroline has recurring nephrotic syndrome. Which of the following areas of potential disturbances should be a prime consideration when planning ongoing nursing care?

A. Body image

B. Sexual maturation

C. Muscle coordination

D. Intellectual development

Correct Answer: A. Body image

Because of edema associated with nephrotic syndrome, potential self-concept, and body image disturbances related to changes in appearance and social isolation should be considered. Nephrotic syndrome is a condition that causes the kidneys to leak large amounts of protein into the urine. This can lead to a range of problems, including swelling of body tissues and a greater chance of catching infections.

- **Option B:** Sexual maturation is not affected. Instruct parents to provide frequent oral hygiene. Oral hygiene reduces dryness of the mouth and mucous membranes. Advise them to limit fluid intake as ordered. The amount of allowed fluid intake is determined based on the child's weight, urine output, and response to treatment.
- **Option C:** Muscle coordination is not affected. Assess their knowledge of disease, signs and symptoms of relapse, dietary and activity aspects of care, medication administration and side effects, monitoring urine and vital signs. This provides information about education needs for follow-up care.
- **Option D:** Intellectual function is not affected. Offer parents and child with praise and encouragement as they acquire skills. Positive reinforcement improves willingness to learn new skills.

60. The client with hyperemesis gravidarum is at risk for developing:

A. Respiratory alkalosis without dehydration

B. Metabolic acidosis with dehydration

C. Respiratory acidosis without dehydration

D. Metabolic alkalosis with dehydration

Correct Answer: B. Metabolic acidosis with dehydration

The client with hyperemesis has persistent nausea and vomiting. With vomiting comes dehydration. When the client is dehydrated, she will have metabolic acidosis. In severe cases of hyperemesis, complications include vitamin deficiency, dehydration, and malnutrition, if not treated appropriately. Wernicke's encephalopathy, caused by vitamin-B1 deficiency, can lead to death and permanent disability if it goes untreated.

- **Option A:** Electrolyte abnormalities such as hypokalemia can also cause significant morbidity and mortality. Additionally, patients with hyperemesis may have higher rates of depression and anxiety during pregnancy. Electrolytes should be replaced as needed. Severe refractory cases of hyperemesis gravidarum may respond to intravenous or intramuscular chlorpromazine 25 to 50 mg or methylprednisolone 16 mg every 8 hours, orally or intravenously.
- **Option C:** A vomiting pregnant client will ultimately develop dehydration. Additionally, there have been case reports of injuries secondary to forceful and frequent vomiting, including esophageal rupture and pneumothorax. Initial treatment should begin with non-pharmacologic interventions such as switching the patient's prenatal vitamins to folic acid supplementation only, using ginger supplementation (250 mg orally 4 times daily) as needed, and by applying acupressure wristbands.
- **Option D:** The client will not be in alkalosis with persistent vomiting. There is no single accepted definition for hyperemesis gravidarum. However, it generally refers to extreme cases of nausea and vomiting during pregnancy. It is a clinical diagnosis. The criteria for diagnosis include vomiting that causes significant dehydration (as evidenced by ketonuria or electrolyte abnormalities) and weight loss (the most commonly cited marker for this is the loss of at least five percent of the patient's pre-pregnancy weight) in the setting of pregnancy without any other underlying pathological cause for vomiting.

61. A client has been diagnosed with disseminated herpes zoster. Which personal protective equipment (PPE) will you need to put on when preparing to assess the client? Select all that apply

A. Goggles

B. Gown

C. Gloves

D. Shoe covers

E. N95 respirator

F. Surgical face mask

Correct Answer: B, C, & E

Because herpes zoster is spread through airborne means and by direct contact with the lesions, you should wear an N95 respirator or high-efficiency particulate air filter respirator, a gown, and gloves.

- **Option A:** Goggles are not needed for airborne or contact precautions. Wear a surgical mask and goggles or face shield if there is a reasonable chance that a splash or spray of blood or body fluids may occur to the eyes, mouth, or nose.
- **Option B:** Wear a gown if skin or clothing is likely to be exposed to blood or body fluids. If PPE or other disposable items are saturated with blood or body fluids such that fluid may be poured, squeezed, or dripped from the item, discard into a biohazard bag. PPE that is not saturated may be placed directly in the trash.
- **Option C:** Wear gloves when touching blood, body fluids, non-intact skin, mucous membranes, and contaminated items. Remove PPE immediately after use and wash hands. It is important to remove PPE in the proper order to prevent contamination of skin or clothing.
- **Option D:** Wear shoe covers to provide a barrier against possible exposure to airborne organisms or contact with a contaminated environment. Shoe covers should also be worn as part of Full Barrier Precautions. Full Barrier Precautions are the combination of airborne and contact precautions, plus eye protection, in addition to standard precautions.
- **Option E:** Put on a NIOSH-certified fit-tested N-95 respirator just before entry to an area of shared air space and wear at all times while in the area of shared air space. Remove and discard the respirator just after exiting the area. The respirator may be discarded into the regular trash unless contact precautions must also be followed. In this case, place the respirator in a plastic zip-lock bag, seal and then discard into the trash.
- **Option F:** Surgical face mask filters only large particles and will not provide protection from herpes zoster. Airborne and contact precautions until disseminated infection is ruled out. Airborne and contact precautions until lesions are dry and crusted.

62. A client has an order to receive one unit of packed RBCs. The nurse makes sure which of the following intravenous solutions to hang with the blood product at the client's bedside?

A. 0.9% sodium chloride.

B. 5% dextrose in 0.9% sodium chloride.

C. Balanced Multiple Maintenance Solution with 5% Dextrose.

D. 5% dextrose in 0.45% sodium chloride.

Correct Answer: A. 0.9% sodium chloride.

0.9% sodium chloride is a standard solution used to follow infusion of blood products. Of the various intravenous solutions, only isotonic saline (0.9%) is recommended for use with blood components. Other commonly used intravenous solutions will cause varying degrees of difficulty when mixed with red cells.

- **Option B:** 5% dextrose in water will hemolyze red cells. Intravenous solutions containing calcium, such as Lactated Ringer's solution, can cause clots to form in the blood. Prior to blood transfusion, completely flush incompatible intravenous solutions and drugs from the blood administration set with isotonic saline.
- **Option C:** Normal saline is the only compatible solution to use with the blood or blood component. Crystalloid solutions and medications may cause agglutination and/or hemolysis of the blood or blood components.
- **Option D:** IV solution containing dextrose in water will hemolyze red cells. Only isotonic, calcium-free IV solutions should be added to, or come in contact with blood products. Calcium may bind with the citrate anticoagulant and promote clotting in the tubing. Excess glucose and/or dextrose causes hemolysis and shortens red cell survival. Studies have shown other IV solutions to be compatible with citrated blood components. However, these solutions should only be considered compatible in situations where the use of 0.9% NaCl would lead to undesirable metabolic abnormalities.

63. You're caring for a 28 y.o. woman with hepatitis B. She's concerned about the duration of her recovery. Which response isn't appropriate?

A. Encourage her to not worry about the future.

B. Encourage her to express her feelings about the illness.

C. Discuss the effects of hepatitis B on future health problems.

D. Provide avenues for financial counseling if she expresses the need.

Correct Answer: A. Encourage her to not worry about the future.

Telling her not to worry minimizes her feelings. Contract with the patient regarding time for listening. Encourage discussion of feelings/concerns. Establishing time enhances trusting relationships. Providing an opportunity to express feelings allows the patient to feel more in control of the situation. Verbalization can decrease anxiety and depression and facilitate positive coping behaviors.

- **Option B:** The patient may need to express feelings about being ill, length and cost of illness, possibility of infecting others, and (in severe illness) fear of death. She may have concerns regarding the stigma of the disease. The recovery period may be prolonged (up to 6 mo), potentiating family and/or situational stress and necessitating the need for planning, support, and follow-up.
- **Option C:** Avoid making moral judgments regarding lifestyle. The patient may already feel upset and angry and condemn self; judgments from others will further damage self-esteem. This can also start distrust issues with care workers.

- **Option D:** Assess the effect of illness on economic factors of the patient and SO. Financial problems may exist because of loss of the patient's role functioning in the family and prolonged recovery. Make appropriate referrals for help as needed: case manager, discharge planner, social services, and/or other community agencies.

64. Which of the following diagnostic tools is most commonly used to determine the location of myocardial damage?

A. Cardiac catheterization

B. Cardiac enzymes

C. Echocardiogram

D. Electrocardiogram (ECG)

Correct Answer: D. Electrocardiogram (ECG)

The ECG is the quickest, most accurate, and most widely used tool to determine the location of myocardial infarction. ECG is an effective tool to distinguish between acute MI and the myocardial ischemia that usually precedes it, as not all patients with myocardial ischemia will develop MI. Transitioning from ischemia to infarction results in precise sequential electrical abnormalities captured on ECG.

- **Option A:** Cardiac catheterization is an invasive study for determining coronary artery disease and may also indicate the location of myocardial damage, but the study may not be performed immediately. Cardiac catheterization is performed for both diagnostic and therapeutic purposes. Despite significant advancement in non-invasive cardiac imaging, it remains the standard for the measurement of cardiac hemodynamics.
- **Option B:** Cardiac enzymes are used to diagnose MI but can't determine the location. Cardiac troponins are specific and sensitive biomarkers of cardiac ischemia, and they are the preferred blood test in the evaluation of patients suspected to have acute MI. There are sensitive and highly sensitive assays to detect cardiac troponin levels in the blood.
- **Option C:** An echocardiogram is used most widely to view myocardial wall function after an MI has been diagnosed. Echocardiography is one of the most commonly used, non-invasive methods for looking at cardiac anatomy. Echocardiography is used to provide thin cross-sections of cardiac structures, this includes; left and right

65. Matt is a 49 y.o. with a hiatal hernia that you are about to counsel. Health care counseling for Matt should include which of the following instructions?

A. Restrict intake of high-carbohydrate foods.

B. Increase fluid intake with meals.

C. Increase fat intake.

D. Eat three regular meals a day.

Correct Answer: B. Increase fluid intake with meals.

Increasing fluids help empty the stomach. A hiatal hernia is a condition in which the upper part of the stomach or other internal organ bulges through the hiatus of the diaphragm. When there is laxity in this hiatus, gastric content can back up into the esophagus and is the leading cause of gastroesophageal

reflux disease (GERD).

- **Option A:** A high-carb diet isn't restricted. Non- or low-acidic foods will reduce the likelihood and severity of hiatal hernia symptoms. The best food choices for people with hiatal hernias are non-acidic, minimally processed, and contain dietary fiber.
- **Option C:** Fat intake shouldn't be increased. Fermented or cultured foods that are rich in probiotics (acid-neutralizing stomach bacteria) may also help reduce hiatal hernia symptoms.
- **Option D:** Diet plays a significant role in the development, severity, and length of hiatal hernia symptoms. But aside from causing inflammation and irritation, researchers are not sure how and why certain foods cause a hiatal hernia to develop.

66. Mang Teban has a history of chronic obstructive pulmonary disease and has the following arterial blood gas results: partial pressure of oxygen (PO2), 55 mm Hg, and partial pressure of carbon dioxide (PCO2), 60 mm Hg. When attempting to improve the client's blood gas values through improved ventilation and oxygen therapy, which is the client's primary stimulus for breathing?

A. High PCO2

B. Low PO2

C. Normal pH

D. Normal bicarbonate (HCO3)

Correct Answer: B. Low PO2

A chronically elevated PCO2 level (above 50 mmHg) is associated with inadequate response of the respiratory center to plasma carbon dioxide. The major stimulus to breathing then becomes hypoxia (low PO2). High PCO2 and normal pH and HCO3 levels would not be the primary stimulus for breathing in this client.

- **Option A:** The inability to fully exhale also causes elevations in carbon dioxide (CO2) levels. As the disease progresses, impairment of gas exchange is often seen. The reduction in ventilation or increase in physiologic dead space leads to CO2 retention. Pulmonary hypertension may occur due to diffuse vasoconstriction from hypoxemia.
- **Option C:** An acid-base disturbance arises when arterial pH lies outside that range. If pH is less than 7.35 an acidosis is present, if pH is greater than 7.45 the alkalosis is present. Tight control on blood pH is achieved by a combination of blood buffers and the respiratory and renal systems which make adjustments to return pH toward its normal levels.
- **Option D:** Acidosis can be caused by either a rise in PaCO2 or a fall in HCO3. Alkalosis can be caused by either a fall in PaCO2 or a rise in HCO3. When the primary change is in CO2 we name the disturbance respiratory, and when the primary change is in bicarbonate, we name the disturbance metabolic.

67. Serious adverse effects of oral contraceptives include:

A. Increase in skin oil followed by acne.

B. Headache and dizziness.

C. Early or mid-cycle bleeding.

D. Thromboembolic complications.

Correct Answer: D. Thromboembolic complications.

Oral contraceptives have been associated with an increased risk of stroke, myocardial infarction, and deep vein thrombosis. If the patient has other risk factors significant for increased risk of venous thromboembolism one may consider using a prophylactic anticoagulant medication temporarily.

- **Option A:** Increased skin oil and acne are the effects of progestin excess. Progestin-only methods such as the implant, hormonal IUD, or shot may worsen acne, hirsutism, or hair loss in some people.
- **Option B:** Headache and dizziness are effects of estrogen excess. These risks are increased in women who smoke. If a patient takes too many oral contraceptive pills at one time the most likely complications will be severe headaches and nausea or vomiting. There is no antidote to treat this condition, just treatment of the symptoms with antiemetics and analgesics.
- **Option C:** Early or mid-cycle bleeding are effects of estrogen deficiency. Most side effects of OCP's are mild and disappear with continued use or switching to another pill formulation. The most common adverse effect of combined oral contraceptive pills is breakthrough bleeding.

68. A female client with an indwelling urinary catheter is suspected of having a urinary tract infection. Nurse Angel should collect a urine specimen for culture and sensitivity by:

A. Disconnecting the tubing from the urinary catheter and letting the urine flow into a sterile container.

B. Wiping the self-sealing aspiration port with antiseptic solution and aspirating urine with a sterile needle.

C. Draining urine from the drainage bag into a sterile container.

D. Clamping the tubing for 60 minutes and inserting a sterile needle into the tubing above the clamp to aspirate urine.

Correct Answer: B. Wiping the self-sealing aspiration port with antiseptic solution and aspirating urine with a sterile needle.

Most catheters have a self-sealing port for obtaining a urine specimen. Antiseptic solution is used to reduce the risk of introducing microorganisms into the catheter. Thoroughly cleanse the Foley catheter at port, if available, or close to point of connection to drainage tubing with antimicrobial swabs.

- **Option A:** Tubing shouldn't be disconnected from the urinary catheter. Any break in the closed urine drainage system may allow the entry of microorganisms. The only way to get an uncontaminated sterile urine specimen from a urinary catheter is to remove the old catheter and insert a new catheter. This is the recommended method for obtaining a culture and sensitivity.
- **Option C:** Urine in urine drainage bags may not be fresh and may contain bacteria, giving false test results. The urine should be withdrawn from a port on the tubing if available. If not available, the catheter may be punctured with syringe and needle only if the catheter is rubber and is self-sealing.
- **Option D:** When there is no urine in the tubing, the catheter may be clamped for no more than 30 minutes to allow urine to collect. Clamp off drainage tubing distal to, or just below, the connection junction of the catheter and drainage bag tubing for 20-30 minutes. This will provide an accumulation of urine from which a specimen can be drawn.

69. Which of the following terms best describes the pain associated with appendicitis?

A. Aching

B. Fleeting

C. Intermittent

D. Steady

Correct Answer: D. Steady

The pain begins in the epigastrium or periumbilical region, then shifts to the right lower quadrant and becomes steady. The pain may be moderate to severe. Classically, appendicitis presents as an initial generalized or periumbilical abdominal pain that then localizes to the right lower quadrant. Initially, as the visceral afferent nerve fibers at T8 through T10 are stimulated, and this leads to vague centralized pain.

- **Option A:** Pain upon passive extension of the right leg with the patient in the left lateral decubitus position is known as psoas sign. This maneuver stretches the psoas major muscle, which can be irritated by an inflamed retrocecal appendix. Patients often flex the hip to shorten the psoas major muscle and relieve pain.
- **Option B:** As the appendix becomes more swollen and inflamed, it will irritate the lining of the abdominal wall, known as the peritoneum. This causes localized, sharp pain in the right lower part of the abdomen.
- **Option C:** As the appendix becomes more inflamed, and the adjacent parietal peritoneum is irritated, the pain becomes more localized to the right lower quadrant. The pain tends to be more constant and severe than the dull, aching pain that occurs when symptoms start.

70. A pregnant client, age 32, asks the nurse why her doctor has recommended a serum alpha fetoprotein. The nurse should explain that the doctor has recommended the test:

A. Because it is a state law

B. To detect cardiovascular defects

C. Because of her age

D. To detect neurological defects

Correct Answer: D. To detect neurological defects

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

- **Option A:** The test is not mandatory, as stated in answer A. Patients having amniocentesis must be duly counseled about the procedure, as well as, the associated risks. There is a risk of obstetric mishap following amniocentesis; a miscarriage can happen in less than 1% of cases. Some other very rare complications of amniocentesis are preterm labor, infection (amnionitis), iatrogenic trauma, or injury to the developing fetus or mother.

- **Option B:** It does not indicate cardiovascular defects. Maternal blood AFP levels often as part of triple (AFP, Estriol, and hCG) or quadruple (AFP, implies Estriol, hCG and Inhibin A) screening test for birth defects. Levels are usually interpreted for age, race, weight, and gestational age. The elevated levels imply a significant risk of having birth defects, hence, further evaluation may be required to assess the level of risk.
- **Option C:** The mother's age has no bearing on the need for the test, so answer C is incorrect. A significant number of patients with elevated maternal AFP do not develop birth defects, but there may be an increased risk of obstetric complications like premature rupture of membrane, placenta accreta, increta, and packet.

71. A child is admitted with a serious infection. After two days of antibiotics, he is severely neutropenic. The physician orders granulocyte transfusions for the next four days. The mother asks the nurse why? The nurse responds:

A. "This is the only treatment left to offer the child."

B. "This therapy is fast and reliable in treating infections in children."

C. "The physician will have to explain his rationale to you."

D. "Granulocyte transfusions replenish the low white blood cells until the body can produce its own."

Correct Answer: D. "Granulocyte transfusions replenish the low white blood cells until the body can produce its own."

Granulocyte (neutrophil) replacement therapy is given until the patient's blood values are normal and he is able to fight the infection himself. Options 1 and 3 are not therapeutic responses. The usual method to obtain granulocytes for transfusion in the US is by single-donor apheresis (intermittent or continuous centrifugation leukapheresis, using an agent like dextran or heptastarch to facilitate separation of the red blood cells). An adult therapeutic dose of granulocytes obtained by apheresis contains between 1.5 x 108 and 3 x 108 granulocytes/kg body weight of the designated recipient

- **Option A:** Transfused granulocytes have activity against infectious agents, but may cause transfusion reactions (including severe, even fatal, pulmonary reactions), alloimmunization that could contribute to the rejection of a subsequent HCT, and (unless they are obtained from CMV-seronegative donors) CMV infection. Regarding prevention of infection, there is enough (low quality, but consistent) evidence to suggest that prophylactic GTX (granulocyte transfusions) may result in decreased infection, but there is no evidence they would be better than prophylactic antimicrobials, and overall survival has never been affected.
- **Option B:** The treatment in option 2 takes days and is not always able to prevent morbidity and mortality. there are a few reports that are compelling enough to believe that this intervention may be life-saving under some circumstances, which means centers that take care of patients with prolonged neutropenia should at least consider GTXs. The technical aspects of the procedure must be carefully implemented: obtaining the largest amount of granulocytes, transfusing them within 8 hours, and aiming for an ANC increase in the 500–1000/?L should be minimum goals.
- **Option C:** Regarding the therapeutic use of GTX for established infections, all modern controlled studies have failed to show clinical benefit. The negative result of the RING study is particularly troublesome because it is difficult to envision how it could have been modified to provide a more definitive answer. Although it is possible, as the authors suggested and some experts have argued, that there was indeed an effect (limited to the patients who received large doses of granulocytes) but the study could not demonstrate it due to lack of power, the simpler explanation is that GTXs, given to the patient population identified by the inclusion criteria of the RING study, do not add any

benefit to optimal antimicrobial treatment.

72. When assessing a lesion diagnosed as malignant melanoma, the nurse in charge most likely expects to note which of the following?

A. An irregular shaped lesion

B. A small papule with a dry, rough scale

C. A firm, nodular lesion topped with crust

D. A pearly papule with a central crater and a waxy border

Correct Answer: A. An irregular shaped lesion

Melanoma is an irregularly shaped pigmented papule or plaque with a red-, white-, or blue-toned color.

- **Option B:** Actinic keratosis, a premalignant lesion, appears as a small macule or papule with a dry, rough, adherent yellow or brown scale.
- **Option C:** Squamous cell carcinoma is a firm, nodular lesion topped with a crust or a central area of ulceration.
- **Option D:** Basal cell carcinoma appears as a pearly papule with a central crater and rolled waxy border.

73. Which of the following symptoms is the most common clinical finding associated with bladder cancer?

A. Suprapubic pain

B. Dysuria

C. Painless hematuria

D. Urinary retention

Correct Answer: C. Painless hematuria

Painless hematuria is the most common clinical finding in bladder cancer. Other symptoms include frequency, dysuria, and urgency, but these are not as common as the hematuria. Bladder carcinoma (BC) is the most common neoplasm of the urinary system. Urothelial carcinoma (UC) is the most common histologic type of BC (approximately 90%). The definition of UC is the invasion of the basement membrane or lamina propria or deeper by neoplastic cells of urothelial origin.

- **Option A:** Suprapubic pain and urinary retention do not occur in bladder cancer. The WHO has replaced the old term transitional cell carcinoma with urothelial carcinoma. Invasion is referred to as ‘micro invasion’ when the depth of invasion is 2 mm or less. The World Health Organization (2016) classifies bladder cancers based on differentiation as low grade (grade 1 and 2) or high grade (grade 3).
- **Option B:** Other less common symptoms include painful micturition, frequency, constitutional symptoms such as fatigue, weight loss, and a pelvic mass. In developing countries, schistosomiasis infection is an important cause of BC. Schistosoma haematobium ova embedded in the bladder wall leading to irritation, chronic inflammation, squamous metaplasia, and dysplasia, with further progression leading to squamous cell carcinoma of the urinary bladder.

- **Option D:** Complications of UC include symptoms related to the tumor and treatment of adverse effects. Complications related to the tumor include weight loss, fatigue, UTI, metastasis, and urinary obstruction leading to chronic kidney failure. The adverse effects of surgical management include UTI, urinary leak, pouch stones, urinary tract obstruction, erectile dysfunction, and vaginal narrowing.

74. 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.

75. A child is seen in the emergency department for scarlet fever. Which of the following descriptions of scarlet fever is not correct?

A. Scarlet fever is caused by infection with group A Streptococcus bacteria.

B. "Strawberry tongue" is a characteristic sign.

C. Petechiae occur on the soft palate.

D. The pharynx is red and swollen.

Correct Answer: C. Petechiae occur on the soft palate.

Petechiae on the soft palate are characteristic of rubella infection. Postnatal infection with rubella can be asymptomatic in approximately 25% to 50% of the patients, especially in young children. The incubation period ranges from 14 to 21 days and is followed by a prodromal illness characterized by low-grade fever, malaise, anorexia, headaches, sore throat, and adenopathy.

- **Option A:** It is caused by streptococcal pyrogenic exotoxins (SPEs) types A, B, and C produced by group A beta-hemolytic streptococci (GABHS) found in secretions and discharge from the nose,

ears, throat, and skin. The causative bacteria is Streptococcus pyogenes, which generates an endotoxin mainly responsible for the skin manifestation of the infection. This is further classified as group A and referred to as Group A Strep (GAS).

- **Option B:** On day 1 or 2, the tongue is heavily coated with a white membrane through which edematous red papillae protrude (classic appearance of white strawberry tongue). By day 4 or 5, the white membrane sloughs off, revealing a shiny red tongue with prominent papillae (red strawberry tongue).
- **Option D:** Red, edematous, exudative tonsils are typically observed if the infection originates in this area. Typically, scarlet fever is associated with acute pharyngitis. As a result, fever, sore throat, pain with swallowing, and cervical adenopathy is present.

76. Pierre, who is diagnosed with acute pancreatitis, is under the care of Nurse Bryan. Which intervention should the nurse include in the care plan for the client?

A. Administration of vasopressin and insertion of a balloon tamponade

B. Preparation for a paracentesis and administration of diuretics

C. Maintenance of nothing-by-mouth status and insertion of nasogastric (NG) tube with low intermittent suction

D. Dietary plan of a low-fat diet and increased fluid intake to 2,000 ml/day

Correct Answer: C. Maintenance of nothing-by-mouth status and insertion of nasogastric (NG) tube with low intermittent suction

With acute pancreatitis, the client is kept on nothing-by-mouth status to inhibit pancreatic stimulation and secretion of pancreatic enzymes. NG intubation with low intermittent suction is used to relieve nausea and vomiting, decrease painful abdominal distention, and remove hydrochloric acid. Prolonged bowel rest by nothing per os (NPO) to minimize pancreatic secretion was an important part of the therapy for any patient with acute pancreatitis.

- **Option A:** Vasopressin would be appropriate for a client diagnosed with bleeding esophageal varices. The most common cause of late death in acute necrotizing pancreatitis is represented by organ failure through infected pancreatic necrosis (IPN). Therefore there might be a theoretical benefit from antibiotic prophylaxis.
- **Option B:** Paracentesis and diuretics would be appropriate for a client diagnosed with portal hypertension and ascites. Fluid therapy in acute pancreatitis can be seen as double edge sword with risk of necrosis through tissue hypoperfusion by using low fluid quantities and liquid sequestration and increased morbidity with too high volumes
- **Option D:** A low-fat diet and increased fluid intake would further aggravate pancreatitis. The concept of nutritional support in AP has gradually moved towards enteral feeding, due to large evidence proving safety and efficiency. Timing and mode of nutritional support in acute pancreatitis should be based on risk prediction of severity.

77. Which of the following medications would the nurse expect the physician to order to reverse a dystonic reaction?

A. prochlorperazine (Compazine)

B. diphenhydramine (Benadryl)

C. haloperidol (Haldol)

D. midazolam (Versed)

Correct Answer: B. diphenhydramine (Benadryl)

Diphenhydramine, 25 to 50 mg I.M. or I.V., would quickly reverse this condition. An acute dystonic reaction is characterized by involuntary contractions of muscles of the extremities, face, neck, abdomen, pelvis, or larynx in either sustained or intermittent patterns that lead to abnormal movements or postures. The symptoms may be reversible or irreversible and can occur after taking any dopamine receptor-blocking agents. Treatment of acute dystonic reaction centers around balancing the disrupted dopaminergic-cholinergic balance in the basal ganglia and discontinuation of the offending agent. The most commonly available drugs in the emergency setting for the treatment of acute dystonic reaction are diphenhydramine and benztropine.

- **Option A:** Prochlorperazine can be used to treat both acute psychotic episodes and chronic mental illnesses. As a first-generation antipsychotic, the drug is better at treating positive symptoms than negative ones, including delusions, hallucinations, agitation, and disorganized speech and behavior.
- **Option C:** Haloperidol is capable of causing dystonia, not reversing it. Due to the blockade of the dopamine pathway in the brain, typical antipsychotic medications such as haloperidol have correlations with extrapyramidal side effects. The extrapyramidal symptoms are muscular weakness or rigidity, a generalized or localized tremor that may be characterized by the akinetic or agitation types of movements, respectively. Haloperidol overdose is also associated with ECG changes known as torsade de pointes, which may cause arrhythmia or cardiac arrest.
- **Option D:** Midazolam would make this client drowsy. Midazolam can be used for anxiolysis and hypnosis during the maintenance phase of general anesthesia and is also superior to thiopental in the maintenance of anesthesia because of the less need for adjunct medications. Midazolam is used as an adjunct medication to regional and local anesthesia for a wide range of diagnostic and therapeutic procedures and has greater patient and physician acceptance.

78. 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.

79. Which of the following dietary measures would be useful in preventing esophageal reflux?

A. Eating small, frequent meals.

B. Increasing fluid intake.

C. Avoiding air swallowing with meals.

D. Adding a bedtime snack to the dietary plan.

Correct Answer: A. Eating small, frequent meals.

Esophageal reflux worsens when the stomach is overdistended with food. Therefore, an important measure is to eat small, frequent meals. Encourage small frequent meals of high calories and high protein foods. Small and frequent meals are easier to digest. Instruct the patient to eat slowly and masticate foods well to help prevent reflux.

- **Option B:** Fluid intake should be decreased during meals to reduce abdominal distention. Avoid placing the patient in supine position, have the patient sit upright after meals. Supine position after meals can increase regurgitation of acid.
- **Option C:** Avoiding air swallowing does not prevent esophageal reflux. Assess for pulmonary symptoms resulting from reflux of gastric content. These include subsequent aspiration, chronic pulmonary disease, or nocturnal wheezing, bronchitis, asthma, morning hoarseness, and cough.
- **Option D:** Food intake in the evening should be strictly limited to reduce the incidence of nighttime reflux, so bedtime snacks are not recommended. Instruct the patient to avoid highly seasoned food, acidic juices, alcoholic drinks, bedtime snacks, and foods high in fat. These can reduce the lower esophageal sphincter pressure.

80. A female client is brought by ambulance to the hospital emergency room after taking an overdose of barbiturates is comatose. Nurse Trish would be especially alert for which of the following?

A. Epilepsy

B. Myocardial Infarction

C. Renal failure

D. Respiratory failure

Correct Answer: D. Respiratory failure

Barbiturates are CNS depressants; the nurse would be especially alert for the possibility of respiratory failure. Respiratory failure is the most likely cause of death from barbiturate overdose. Acute barbiturate toxicity may occur as the result of an intentional or unintentional overdose. Barbiturates have a history of abuse, New York City Health Department data showed 8469 cases of barbiturate poisoning in the period between 1957 through 1963. 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. Case reports exist of successful treatment of overdosage with hemodialysis.

- **Option A:** Tolerance is a gradual loss of effectiveness such that the dose has to be increased to maintain the same effect. This effect is explainable in part from enzyme induction in the liver. Animal models have demonstrated tolerance. Withdrawal symptoms may occur: nervousness,

tremor, agitation, and hypotension may develop 2 to 8 days after the abrupt discontinuation of barbiturates. Additionally, the patient may develop delirium or grand mal seizures.

- **Option B:** When given in IV anesthetics, barbiturates will produce a reduction in blood pressure and an increase in heart rate. Respiratory depression and apnea may occur.
- **Option C:** Extravasation of thiopental (a vesicant) may cause severe tissue necrosis. If extravasation occurs, treatment measures include hyaluronidase and phentolamine. Case reports of successful treatment also include topical application of a eutectic mixture of local anesthetics (EMLA) along with the local injection of lidocaine.

81. The nurse is performing colostomy irrigation on a client. During the irrigation, a client begins to complain of abdominal cramps. Which of the following is the most appropriate nursing action?

A. Notify the physician.

B. Increase the height of the irrigation.

C. Stop the irrigation temporarily.

D. Medicate with dilaudid and resume the irrigation.

Correct Answer: C. Stop the irrigation temporarily.

If cramping occurs during colostomy irrigation, the irrigation flow is stopped temporarily and the client is allowed to rest. Cramping may occur from an infusion that is too rapid or is causing too much pressure. Have the colostomy patient sit on or near the toilet for about 15 to 20 minutes so the initial colostomy returns can drain into the toilet. (If the patient is on bed rest, allow the colostomy to drain into the bedpan.)

- **Option A:** The physician does not need to be notified. Unless contraindicated or otherwise ordered by the physician, it is best to establish a routine of daily irrigation in accordance with the patient's former bowel habits.
- **Option B:** Increasing the height of the irrigation will cause further discomfort. Hold the enema can approximately 12 inches above the bed and allow the solution to flow in slowly to avoid painful cramps usually caused by too rapid flow.
- **Option C:** Medicating the client for pain is not the most appropriate action. If cramping occurs, slow down the flow rate and ask the patient to deep breathe until cramps subside. Cramping during irrigation may indicate that the flow is too fast or the water is too cold.

82. The partograph is a tool used to monitor labor. The maternal parameters measured/monitored are the following, except?

A. Vital signs

B. Fluid intake and output

C. Uterine contraction

D. Cervical dilatation

Correct Answer: B. Fluid intake and output

Partograph is a monitoring tool designed by the World Health Organization for use by health workers when attending to mothers in labor, especially the high risk ones. For maternal parameters all of the above is placed in the partograph except the fluid intake since this is placed in a separate monitoring sheet. WHO further modified the partograph for the third time. This simplified partograph is color-coded. The area to the left of the alert line is colored green representing the normal progress. The area to the right of the action line is colored red indicating dangerously slow progress. The area between the alert and action line is colored amber indicating the need for greater vigilance

- **Option A:** WHO has recommended use of the partograph, a low-tech paper form that has been hailed as an effective tool for the early detection of maternal and fetal complications during childbirth. All the recordings for the maternal condition are entered at the foot of the partograph below the recording of uterine contraction. Maternal vital signs such as temperature, pulse, BP, urine output and urine for protein and acetone are monitored.
- **Option C:** Below the cervical dilatation, there is a space for recording uterine contractions per 10 min and the scale is numbered from 1 to 5. Each square represents one contraction. So if two contractions are felt in 10 min, two squares are shaded.
- **Option D:** The central feature of the partogram is a graph where cervical dilatation is plotted. Along the left side, there are squares from 0 to 10, each representing 1-cm dilatation. Along the bottom of graph are numbers 0–24 each presenting 1 h. The first stage of labor is divided into latent and active phases. The latent phase is from 0 to 3 cm, and it lasts up to 8 h. The active phase is from 3 to 10 cm (full cervical dilatation). The dilatation of the cervix is plotted with “x.”

83. 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).

84. A client with COPD reports steady weight loss and being “too tired from just breathing to eat.” Which of the following nursing diagnoses would be most

appropriate when planning nutritional interventions for this client?

A. Altered nutrition: Less than body requirements related to fatigue.

B. Activity intolerance related to dyspnea.

C. Weight loss related to COPD.

D. Ineffective breathing pattern related to alveolar hypoventilation.

Correct Answer: A. Altered nutrition: Less than body requirements related to fatigue.

The client's problem is altered nutrition—specifically, less than required. The cause, as stated by the client, is the fatigue associated with the disease process. Instruct the patient to frequently eat high caloric foods in smaller portions. COPD patients expend an extraordinary amount of energy simply on breathing and require high caloric meals to maintain body weight and muscle mass.

- **Option B:** Activity intolerance is a likely diagnosis but is not related to the client's nutritional problems. Provide at least 90 minutes of undisturbed rest in between activities. Allotment of undisturbed rest reduces demand for oxygen and allows adequate physiologic recovery.
- **Option C:** Weight loss is not a nursing diagnosis. Encourage a rest period of 1 hr before and after meals. Helps reduce fatigue during mealtime and provides an opportunity to increase total caloric intake. Avoid gas-producing foods and carbonated beverages. Can produce abdominal distension, which hampers abdominal breathing and diaphragmatic movement and can increase dyspnea.
- **Option D:** Ineffective breathing pattern may be a problem, but this diagnosis does not specifically address the problem of weight loss described by the client. Instruct how to splint the chest wall with a pillow for comfort during coughing and elevation of head over the body as appropriate. Promotes physiological ease of maximal inspiration.

85. Your patient is complaining of muscle cramps while undergoing hemodialysis. Which intervention is effective in relieving muscle cramps?

A. Increase the rate of dialysis.

B. Infuse normal saline solution.

C. Administer a 5% dextrose solution.

D. Encourage active ROM exercises.

Correct Answer: B. Infuse normal saline solution

Treatment includes administering normal saline or hypertonic normal saline solution because muscle cramps can occur when the sodium and water are removed too quickly during dialysis. Saline and/or dextrose solutions, electrolytes, and $NaHCO_3$ may be infused in the venous side of continuous arteriovenous (CAV) hemofilter when high ultrafiltration rates are used for removal of extracellular fluid and toxic solutes. Volume expanders may be required during or following hemodialysis if sudden or marked hypotension occurs.

- **Option A:** Reducing the rate of dialysis, not increasing it, may alleviate muscle cramps. The central role of volume removal as the trigger for susceptible patients seems evident from the fact that intradialytic cramps are usually associated with hypotension and that prompt correction of hypotension by saline administration and discontinuation of ultrafiltration often improve the cramping.

- **Option C:** Most patients surveyed (76%) reported that fluid removal by dialysis was decreased, was stopped, and/or fluid was given back as the main intervention used to alleviate their cramps. When asked about all interventions to alleviate dialysis cramps, the most frequent response (29%) was a combination of decreasing fluid removal, raising the lower extremities, and massaging the extremities.
- **Option D:** Avoid trauma to shunt. Handle tubing gently, maintain cannula alignment. Limit activity of extremity. Avoid taking BP or drawing blood samples in shunt extremity. Instruct the patient not to sleep on the side with shunt or carry packages, books, purse on affected extremity.