Session Number 409

CERTIFICATION REVIEW:
Questions, Answers, Rationales, Strategy

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Content Description

In response to frequent requests for more practice with sample questions and answers, this session will be dedicated to fulfilling that request. We will present sample questions and include a discussion of rationale for correct and incorrect answers. Strategies for clues to correct answers will also be given. Sample questions will begin with subject-specific examples in the topics of cardiac, pulmonary, neuro, GI, renal, endocrine, hematologic, multisystem, synergy, and behavioral. The session will conclude with a “potpourri” of questions from all topics tested in the CCRN, PCCN, CCNS, CMC and CSC certification exams. The participant will leave with a plan for successful completion of the exam.

Learning Objectives
At the end of this session, the participant will be able to:

1. Analyze questions and identify clues to correct answer
2. Explore rationales for correct and incorrect answers
3. Develop a plan for successful certification

References
NOTE: Please refer to outline for references pertaining to this session.
Synergy
1. After cardiac surgery, a patient who is a Jehovah’s Witness had an HCT of 18% and accumulated chest-tube drainage of 1800cc in the first 3 hours. The most appropriate action would be to:
   A. Begin continuous-circuit autotransfusion
   B. Administer donated directed PRBCs
   C. Administer donated autologous whole blood
   D. Administer 500cc of albumin

2. An alert patient is emergently intubated during an episode of pulmonary edema. When family members come to visit the patient, they cry out, “Talk to me; talk to me!” The nurse should tell the family that:
   A. They must not excite the patient while visiting
   B. Communication is not a priority at this time
   C. The patient is too exhausted to converse with them
   D. The breathing tube temporarily prevents the patient from speaking

Cardiac
3. The heart sound most often associated with heart failure is:
   A. An S3
   B. A pericardial friction rub
   C. An S4
   D. A systolic ejection murmur

4. A patient is admitted with acute decompensated heart failure. The physician orders that the patient receive nesiritide (Natrecor) for volume overload refractory to loop diuretics. The nurse would closely monitor the patient for which side effect of nesiritide?
   A. Hypokalemia
   B. Hypotension
   C. Ventricular dysrhythmia
   D. Nausea/vomiting

5. The nurse should be alert for complications associated with embolic phenomena in which group of patients regardless of their disease stage?
   A. Patients with dilated cardiomyopathy
   B. Patients with hypertrophic cardiomyopathy
   C. Patients with restrictive cardiomyopathy
   D. Patients with myocarditis
6. Which of the following physiologic changes occurs as direct result of cardiogenic shock?
   A. Increase in capacitance
   B. Increase in afterload
   C. Decrease in preload
   D. Decrease in SVR

**Pulmonary**
7. A young patient is admitted to the ICU after a motorcycle accident involving the center median of the freeway in which she sustained blunt head and chest trauma. Within minutes of arrival on the unit, the patient complains of dysphasia and is coughing. She develops upper airway obstruction unrelieved by oxygen, becomes cyanotic, and has palpable subcutaneous emphysema near the sternal notch.
   For which of the following interventions should the nurse prepare?
   A. Intubation and mechanical ventilation
   B. Fiberoptic bronchoscopy
   C. Emergent tracheostomy
   D. Initiation of cardiac compressions for CPR

8. The nurse maintains an adequate water level in the water-seal chamber of a chest tube drainage system because the waterseal:
   A. Controls the suction level of the chest tube system
   B. Controls the rate of drainage from the pleural cavity
   C. Prevents air and pleural fluid from reentering the pleural cavity
   D. Determines the amount of drainage from the pleural cavity

**Neuro**
9. Anna is an ICU patient with new-onset grand mal seizures. While at her bedside, you witness a seizure. What should your first action be?
   A. Hit the Code Blue Button
   B. Hold the patient down to prevent injury
   C. Insert an oral airway and call for help
   D. Roll Anna to her right side and protect the airway

10. Jason M., an 80 year old African American male, as had a left temporal cerebral vascular accident due to uncontrolled hypertension. As the critical care nurse you know Jason is likely to have which of the following deficits?
    A. Receptive Aphasia
    B. Motor Deficits
    C. Balance deficits
    D. Expressive Aphasia

**GI**
11. Mr. Smith, is a 46 year old male who is frequently admitted to your ICU and step down for alcohol withdrawal syndrome. Most recently he spent the last week in the ICU for alcohol-induced coma and was transferred to Medical Step Down 2 days ago. Just prior to being
transferred to GMF, Mr. Smith begins projectile vomiting bright red blood. As the critical care step down nurse you should:
   A. Position the patient flat to facilitate intubation, call RRT and get a set of vital signs
   B. Obtain and insert a Linton-NachlasTube for balloon tamponade and call RRT.
   C. Start dopamine at 5mcg/kg/min in anticipation of hypotension secondary to the bleeding and call RRT.
   D. Protect Airway with Aspiration Precautions/HOB 30 degrees, verify IV access, get vital signs and call RRT.

12. Liam, a 45 year old alcoholic with chronic pancreatitis, develops respiratory distress with dyspnea and pulmonary edema. These symptoms are due to which of the following?
   A. Bronchospasm related to stress
   B. Aspiration
   C. Pulmonary capillary endothelial damage related to release of phospholipase A2, a digestive enzyme
   D. Atelectasis

Renal
13. You, the critical care RN, are preparing Laura for her first peritoneal dialysis session. It is important to tell her which of the following findings is normal?
   A. During the instillation phase, the insertion site may leak
   B. During the dwell phase, you may feel abdominal fullness and shortness of breath
   C. During the dwell phase, subcutaneous fluid may be seen in the groin
   D. During the drain phase, you may feel dizzy and have palpitations

14. Eve is undergoing hemodialysis for renal failure as a result of uncontrolled Type I Juvenile Diabetes. Her mother asks you, the critical care RN, how do you know that the dialysis is effective. Adequacy of hemodialysis is measured by which of the following?
   A. Urine Creatinine clearance
   B. Sodium, Chloride and potassium levels
   C. Blood Pressure
   D. Urea Clearance

Endocrine
15. Mr. Johnny Appleseed has been admitted to your critical care unit with DKA. His serum glucose was initially 675 and his K+ = 6.0. His insulin drip is currently at 5 units/hour and NSS is at 200 ml/hr. Mr. A’s most recent FSBG = 275 and his anion gap = 25. Which changes in his care you would anticipate?
   A. Change the IV fluids to D5NS, continue the insulin drip, and continue FSBG every one hour and recheck BMP every 4 hours
   B. Change the IV fluids to D5W, continue the insulin drip, continue FSBG every one hour and give Kayexylate to lower the K+
   C. Discontinue the insulin drip and change FSBG to every 4 hours
   D. No changes in therapy; continue as is
16. The patient was admitted with a serum glucose level of 468 mg/dL. After 2 hours of therapy with 4 units/hr of regular Humulin in normal saline via the intravenous route, the patient’s serum glucose is 400 mg/dL. Which of the following is the most appropriate nursing intervention at this time?
   A. Document the laboratory results and continue to monitor
   B. Increase the hourly insulin infusion dose by 2 units/hr
   C. Begin administration of intravenous insulin at 8 units/hr and continue to monitor
   D. Change from a regular insulin infusion to subcutaneous insulin glargine

**Hematology**

17. For a patient with disseminated intravascular coagulopathy (DIC), the primary goal of medical treatment is to:
   A. Accurately administer intravenous drip heparin to prevent “using up” clotting factors
   B. Administer subcutaneous fibrinolytics to dissolve clots formed in the microvasculature
   C. Identify and treat the underlying conditions that lead to the development of DIC
   D. Provide supportive care as needed until the DIC subsides.

18. You are caring for a Level I trauma patient, a 20 year old male who was shot multiple times in the abdomen and chest during a failed robbery attempt. He has received multiple blood transfusions that includes 20 units of PRBCs. This patient is susceptible to which increased serum levels?
   A. sodium and magnesium levels
   B. potassium levels
   C. BUN and creatinine levels
   D. bilirubin and amylase levels

**Multi-System**

19. Your 80 kg patient exhibits the following signs and symptoms:
   T = 102.6, HR = 136 bpm, BP 90/50, UO for last hour = 40 ml/hr, WBC = 10, 000, lactate = 2mmol/L and pan cultures are negative to date. You suspect that the patient has which of the following?
   A. Systemic Inflammatory Response Syndrome (SIRS)
   B. Cardiogenic Shock
   C. Septic Shock
   D. Multiple Organ Dysfunction Syndrome (MODS)

20. Which of the following patient data supports the diagnosis of multiple organ dysfunction syndrome (MODS)?
   A. UO = 30ml/hr, BUN = 18mg/dL, WBC = 5,120.
   B. Upper GI bleeding, a GCS = 15, and Hct = 25%
   C. A total bilirubin of 15 mg/dL, a serum creatinine of 8 mg/dL, and a platelet count (plt) of 2,300 mm3
   D. A respiratory rate of 45/min, a PaCO2 of 60 mmHg, and a CXR with diffuse bilateral infiltrates
Let’s Mix ‘em Up!
21. A patient transferring out of the ICU says, “Why can’t I just stay a few days longer? I don’t feel strong enough.” Which of the following is the most appropriate response?
   A. “There’s a very sick patient who needs this bed”
   B. “You sound concerned about leaving the ICU”
   C. “Most people do just fine after transfer”
   D. “Your insurance limits the time you can stay in the ICU”

22. A patient with an acute GI hemorrhage is undergoing volume resuscitation with NSS at 150 cc/hr and 2 units PRBCs. Which of the following would best indicate continued hypovolemia?
   A. O₂ saturation of 91%
   B. SVO₂ of 50%
   C. PAWP of 9 mmHg
   D. CVP of 5 mmHg

23. During which phase of intra renal failure should fluid intake be most severely restricted?
   A. Onset
   B. Oliguric phase
   C. Nonoliguric phase
   D. Recovery

24. In caring for a patient in hypertensive crisis, the nurse should:
   A. Perform care activities in clusters
   B. Monitor neurological status frequently
   C. Administer phenylephrine (Neo-Synephrine)
   D. Initiate verapamil (Calan)

25. Before transferring a patient to a medical-surgical unit, the nurse conducts a pretransfer physical assessment. Suddenly, the patient develops tachycardia, tachypnea, dyspnea, and generalized chest discomfort. The most likely cause of these symptoms is:
   A. Myocardial infarction
   B. Tension pneumothorax
   C. Pulmonary embolism
   D. Acute anxiety response

26. A 70 kg patient with acute respiratory distress syndrome (ARDS) is intubated and mechanically ventilated. The patient is currently on a continuous vecuronium infusion titrated to maintain 2/4 twitch. Peak inspiratory pressure is 55 cm H₂O. The patient currently has a PaO₂ of 60 mmHg, and the physician orders the following ventilator settings: CMV; Vt 700 ml; rate 12/min; FiO₂ 100%; PEEP 15 cm H₂O. The nurse knows that:
   A. CMV is an inappropriate ventilator mode for a patient receiving vecuronium
   B. A tidal volume of 700 ml is inappropriate for this patient
   C. The PEEP should be increased to 20 cm H₂O to improve oxygenation
   D. The ordered ventilator settings are appropriate for this patient
27. A 70 kg patient with acute respiratory distress syndrome is mechanically ventilated on the following settings: FiO2 70%, tidal volume 450 ml, rate 10/min, PEEP 20 cm H2O. On these settings, the patient’s PaO2 is 76 mmHg. The patient currently has a core temperature of 37°C, heart rate of 116/min, and blood pressure of 78/58 mmHg. Which of the following interventions should the nurse now anticipate?

A. Decrease PEEP to decrease intrathoracic pressure  
B. Administer 500 ml fluid bolus of normal saline  
C. Initiate a norepinephrine infusion to maintain systolic BP at least 80 mmHg  
D. Increase tidal volume to 700 ml

28. Your patient’s lactate/lactic acid level has risen from 2 mmol/L to 6 mmol/L 8 hours after his MVC (motor vehicle crash). You, the critical care nurse, know that this likely indicates which of the following?

A. Appropriate Fluid Resuscitation  
B. Inadequate Tissue Perfusion  
C. The need to start TPN immediately  
D. The need to transfuse 20 units of cryoprecipitate immediately.

29. A patient’s family expresses anxiety regarding the meaning of numbers on the patient’s monitor, and asks the nurse for clarification. The nurse’s most appropriate response would be:

A. “The numbers indicate when the patient is having problems”  
B. “The numbers help us determine the best treatment”  
C. “Which numbers on the monitor concern you?”  
D. “What don’t you understand about the monitor?”

30. A patient admitted with the diagnosis of acute coronary syndrome is in the intensive care unit on oxygen 2L/min by nasal cannula and unfractionated heparin per protocol. The patient complains of upper abdominal pain, which is described as discomfort 1 out of 10. The most appropriate initial intervention for the critical care nurse to perform would be to:

A. Obtain serum troponin  
B. Insert a nasogastric tube  
C. Administer 1/150 nitroglycerin sublingual  
D. Obtain a 12-lead ECG

31. Acetaminophen (Tylenol) Overdose may take up to 2 weeks to resolve. From 72-96 hours from ingestion, if not treated, symptoms of ingestion will include which of the following?

A. Increased renal function  
B. Pallor, lethargy, metabolic acidosis  
C. RUQ pain, increased serum liver enzymes  
D. Jaundice, confusion, coagulation disorders
32. Your patient was admitted for a low H&H, epistaxis, and bleeding into the diaphragm. This patient is bleeding from the gums, petechiae are noted on the chest and arms. Platelets are less than 100,000. The probable diagnosis is which of the following?
   A. ITP
   B. Hemolytic Anemia
   C. Aplastic Anemia
   D. Pernicious Anemia

33. The nurse manager feels that the number of blood culture samples that have been reported by the laboratory as being contaminated is excessive. The most appropriate action for the nurse manager would be to:
   A. Observe the staff as they obtain blood culture samples
   B. Track the number of blood cultures drawn and the number that are reported as contaminated
   C. Hold a staff meeting and discuss the problem
   D. Develop a poster demonstrating the correct procedure

34. Mrs A, a 42 year old with severe Crohn’s Disease and perforation, returns from surgery with an ileostomy. Mrs. A is at greatest risk for which of the following?
   A. Prolapsed stoma
   B. Dehydration
   C. Hypernatremia
   D. Hemorrhage

35. Which of the following measures is most effective in preventing aspiration of tube feeding in an unconscious, mechanically ventilated patient?
   A. Provide frequent and scrupulous mouth care
   B. Instill blue food coloring into the feeding solution
   C. Keep the patient turned on the left side
   D. Elevate the head of the bed at 30 to 45 degrees unless medically contraindicated

36. What is the clinical presentation of a patient with a NORMAL response to the “doll’s eye” maneuver?
   A. Conjugate gaze in the opposite direction as the head is turned
   B. Nystagmus with head turn
   C. Conjugate gaze in the same direction as the head is turned
   D. Disconjugate gaze with head turn

37. On postoperative day 3, a patient (status: post roux-en-y-gastric bypass) is admitted to the ICU with a diagnosis of sepsis secondary to gastric perforation. On postoperative day 5, the patient’s weight increases by 10 kg, urine output is less than 325 ml/day for the last 3 days, and there are crackles bilaterally on lung auscultation. The patient’s BP is 94/40 mmHg, HR 140 bpm, RR 38/min, CVP 22 cm H₂O, PAOP 25 mmHg. The patient’s current laboratory values are: Na⁺ 123 mEq/L, potassium 9.2 mEq/L, phosphorus 6.0 mg/dL, calcium 4.7 mg/dL, BUN 148 mg/dL, and creatinine 7.4 mg/dL. Based on these findings, nursing management of this patient will need to include:
A. Continued administration of fluid boluses
B. Hemodialysis
C. Continuous renal replacement therapy
D. Peritoneal dialysis

38. On confirmation of a RV MI, the nurse would anticipate the following treatment plan:
   A. Administer fluids to maintain a PAWP > 15 mmHg
   B. Infuse IV nitroglycerin to keep the patient pain-free
   C. Administer nitroprusside to reduce afterload
   D. Administer furosemide to prevent heart failure

39. The daughter of a mechanically ventilated patient is to be taught how to suction. When developing a teaching plan, the nurse must first:
   A. Obtain written information about the procedure
   B. Determine a schedule for demonstrating the technique
   C. Assess the knowledge and skills the daughter needs to learn
   D. Encourage the daughter to observe the procedure on other patients

40. Which of the following nursing diagnoses would be the most appropriate for a patient who presents to your critical care unit with Guillain-Barre syndrome?
   A. Impaired respiratory function, impaired nutrition, acute pain
   B. Impaired respiratory function, impaired motor weakness, acute pain
   C. Impaired motor weakness, impaired bowel function, acute pain
   D. Impaired respiratory function, impaired bowel function, chronic pain

41. A pregnant 26-year-old woman presents with a history of progressively increasing abdominal pain over her right upper abdomen and left lower abdomen for the past 5 days, and vomiting of a primarily bile-colored fluid. Her current temperature is 110.8°F, and her only prior hospitalization was for an appendectomy when she was an adolescent. Obstetrical examination reveals gestation of 26 weeks and no problems with the active, alive fetus. As soon as the nurse inserts a nasogastric tube and initiates IV fluids, the nurse will tailor interventions for a patient with suspected:
   A. Ectopic pregnancy
   B. Abruptio placenta
   C. Peptic ulcer disease
   D. Intestinal obstruction

42. The respiratory status of a patient with chronic obstructive pulmonary disease has improved, and she is using 2L/min of oxygen via cannula. She has been receiving steroid therapy to decrease inflammation. This morning the patient’s previously normal laboratory results reveal a serum glucose of 280 mg/dL and the following arterial blood gas results:
   pH 7.22, PCO₂ 6 mmHg, PO₂ 92 mmHg, and HCO₃⁻ 21 mEq/L.
   Which of the following interventions is warranted to manage these findings?
A. IV fluid and electrolyte replacement  
B. Administration of 6 units of regular insulin IV bolus  
C. Low-dose insulin in normal saline drip  
D. 50 mL bicarbonate solution bolus

43. The nurse is performing an admission assessment on a patient diagnosed with diabetes insipidus. Which of the following assessment findings would the nurse expect to see in a patient with that condition?
   A. Elevated systolic blood pressure, tachycardia, decreased urinary output  
   B. Elevated serum potassium, bradycardia, numbness in hands  
   C. Polyuria, extreme thirst, decreased urinary specific gravity  
   D. Widened pulse pressures, dilated pupils, decerebrate posturing

44. Which of the following best indicates that fluid resuscitation for hypovolemic shock has been appropriate?
   A. SVO₂ 45%, CO 3.0 L/min, SVR 800  dynes/sec/cm⁻⁵  
   B. SVO₂ 45%, CO 5.0 L/min, SVR 1900  dynes/sec/cm⁻⁵  
   C. SVO₂ 68%, CO 5.0 L/min, SVR 2100  dynes/sec/cm⁻⁵  
   D. SVO₂ 68%, CO 4.4 L/min, SVR 1100  dynes/sec/cm⁻⁵

45. Shane was aggressively treated with 0.3% hypertonic saline for profound hyponatremia. Now he is experiencing tremors, LOC changes, and paresthesias. Shane is probably developing which of the following?
   A. ICU psychosis  
   B. Hyponatremia veridans  
   C. Osmotic demyelinization syndrome  
   D. Red cell sequestration

46. A 65 YO female with a hx of COPD is placed on the following ventilator settings for weaning:
   FiO₂ 40%  
   VT 600 ML  
   IMV, 8 BPM  
   PSV 10 CM H₂O  
Twenty minutes after the ventilator changes have been made, the nurse assesses the patient and notices diaphorsis and labored respirations.
   VS: 160/90-160-44-99°F (37.2°C)  
Which of the following is the most likely cause of the patient’s clinical condition?
   A. Low FiO₂  
   B. High tidal volume  
   C. Low tidal volume  
   D. IMV setting
47. The nurse discusses the patient's condition with the physician and the respiratory therapist. A decision is made to:
   A. Increase peep to 10 cm h20
   B. Increase $V_T$ to 700 ml
   C. Increase PSV to 14 cm
   D. Switch to pressure control

48. Your hospital receives word of a mass casualty incident. You are called on to report to the ED and assist with triage. The preliminary report is that your trauma center will be receiving 60 patients. The first patient you see is a 30 year old male with multiple lacerations. He is awake, alert, c/o of pain in right chest and right upper quadrant. There is no rebound tenderness. It is confirmed that ribs 7-9 are fractured. You would suspect which of the following underlying injuries?
   A. Liver laceration
   B. Splenic laceration
   C. Pneumothorax
   D. Mesenteric Infarction

49. The second patient you see during this mass casualty is a 18 year old female who was trapped in her car for 2 hours by the steering column. She c/o left shoulder pain, left upper quadrant pain with rebound tenderness. Fire rescue listed her as stable in the field because at the car accident scene she had no rebound tenderness or guarding. She now has a pulse and heart rate of 120 bpm and confirmed 9-10 rib fractures. You suspect which of the following?
   A. Ruptured Pancreas
   B. Splenic Injury
   C. Lacerated Liver
   D. Diaphragm rupture

50. An AMI patient is in critical condition in the CCU. His significant other has been at the bedside providing reassurance and support since his admission 12 hours ago. His estranged wife arrives and demands that the significant other not be allowed to visit or be given condition updates. The nurse should:
   A. Ask the physician to write an order to allow the significant other to have visitation privileges
   B. Request a multidisciplinary care conference to discuss visitation and communication of patient status
   C. Contact the hospitals' medical-legal department and request that the hospital attorney speak to the wife
   D. Encourage the patient to express his desire to spend time with his significant other to his wife
Answers and Rationales

1. Answer: A
Knowledge of patient and family beliefs is an important part of patient care. For followers of the Jehovah’s Witness faith, receiving blood from an outside source is not acceptable. As a result, even blood from a family member or from the patient themselves that was donated prior to surgery is not permitted. Because albumin is derived from blood, it, too, is not acceptable. Auto-transfusion is acceptable because it is directly connected to the patient.

2. Answer: D
In order to gain trust of patients and families, it is essential for the nurse to be truthful at all times. While family visits should be encouraged and should not cause excitement or anxiety for the patient, this is not the reason why the patient cannot speak to the family. Exhaustion is also not the reason. This is true, too, regarding the patient and family communication.

3. Answer: A
An S3 heart sound is caused by volume overload of the ventricle and is associated with heart failure. An S4 is heard when the ventricle is stiff, such is found in hypertension. A pericardial friction rub is heard in pericarditis, usually as a result of an MI. A systolic ejection fraction is caused by stenosis or regurgitation of a valve.

4. Answer: B
Nesiritide’s major side effect is hypotension. It has not been found to cause electrolyte imbalance or dysrhythmia. It is not associated with nausea or vomiting. If hypotension occurs, the nurse should decrease the infusion by 30% or shut it off. She should reposition her patient to encourage improvement in blood pressure. When an adequate blood pressure returns, restart the nesiritide at 30% less than the original infusion.

5. Answer: A
Because all four chambers of the heart are enlarged in dilated cardiomyopathy, blood can pool and cause clots to form. These clots place the patient at risk for emboli and MI, PE or stroke. The patient should be anticoagulated, usually with warfarin (Coumadin). Patients with hypertrophic or restrictive cardiomyopathy do not have a tendency to develop clots in the heart chambers. Myocarditis is an inflammation of the middle layer of cardiac muscle and does not cause clotting.

6. Answer: B
Cardiogenic shock will initiate the sympathetic nervous system and renin-angiotensin-aldosterone system as a compensatory mechanism. Vasoconstriction and retention of sodium and water will result in hypervolemia and a increase in both preload and afterload. Systemic vascular resistance, (SVR) is afterload of the left ventricle. Capacitance results from dilation of the venous vascular system. This allows blood to remain in the venous system and decreases blood return to the right ventricle. The result is a decrease in preload.
7. Answer: C
An emergent tracheostomy will provide immediate access to and maintenance of a patent airway so the patient can be ventilated and enable management of the pulmonary trauma that has resulted in the subcutaneous emphysema. The raids onset of airway obstruction suggests that the obstruction is located in the upper airways, so oral intubation will be ineffective to solve the problem. A fiberoptic bronchoscopy can only be used after the airway has been secured. There is no indication that cardiac compressions for initiation of cardiopulmonary resuscitation are warranted, as the patient has not lost pulses.

8. Answer: C
The water seal chamber acts as a barrier between the patient’s lung and the environment, thereby preventing the air and fluid to re-enter the pleural cavity. Without it, the patient would continue with his pneumothorax symptoms. The suction control chamber, which uses either sterile water or a dial to set the amount of suction, is used to control the amount of suction being placed on the pleural cavity. By doing so, it controls the amount and rate of drainage from the pleural cavity.

9. Answer = D
Rationale = The best answer is to turn Anna to her side and protect the airway. Because the seizure has already started, it is impossible to safely insert an oral airway. Never try to restrain a seizing patient; movement is strong and involuntary and you and the patient could be harmed. Hitting the code button or calling an RRT can be done, but won’t help the patient immediately – 1st action. Also assess for precipitating events, aura, onset, duration, medication or interventions that stopped the seizure if any and postictal state. All should be included in your nursing note.

10. Answer = A
Rationale = The patient has had a stroke affecting Wernicke’s area in the temporal lobe, which affects verbal reception. Damage to Wernicke’s area leads to the inability to interpret speech and the comprehension of words. This is identified as Wernicke’s aphasia. Damage to the left frontal lobe, or less often, right frontal lobe, can cause expressive aphasia, or Broca’s aphasia, with verbal language reception usually remaining intact.

11. Answer = D
Rationale = The patient has likely ruptured a varice. Priorities are to protect & maintain airway, stop bleeding and verify IV access for blood replacement, fluid management and possible vasopressor administration. You would anticipate the placement of a Minnesota Tube not Linton-Nachlas by the MD not RN. The Minnesota tube will tamponade both gastric and esophageal varices, the Linton only gastric. Dopamine at 5 mcg/kg/min may get started, but only if blood and fluids do not correct BP. Most likely pure vasoconstrictors such as octreotide and high dose vasopressin would get started first to stop the bleeding and also increase the BP.

12. Answer = C
Rationale = Chronic Pancreatitis results in the release of digestive enzymes into the body including phospholipase A2. Phospholipase A2 breaks down the cellular structure of the capillary beds and endothelium, leading to tissue damage throughout the body (MODS). The capillary damage is manifested as pulmonary edema. These patients often can acutely develop ARDS.
13. Answer = B
Rationale = the fullness is r/t the 2-3L of dialysate instilled and allowed to dwell in the abdomen. Leaking at the insertion site is abnormal and must be reported immediately because this can lead to peritonitis. Fluid seen in the groin is more than likely indicative of a hernia. Dizziness and palpitations during the drain phase is indicative of a too-rapid fluid shift leading to a vagal response. The drain time needs to be lengthened.

14. Answer = D
Rationale = the rate of urea clearance in the blood is the best method of monitoring dialysis effectiveness, especially during dialysis. Electrolytes may be altered due to fluid shifts and distillate used. BP is going to fluctuate with fluid removal and urine creatinine clearance rate indicates residual renal function.

15. Answer = A
Rationale = Once the blood glucose is less than 300 mg/dL, D5NS should be added to slow the drop in glucose and slowly correct the anion gap to less than 20. As the DKA is corrected, potassium will return to normal; the high K+ does not need to be treated. The insulin drip needs to continue until the anion gap is closed. If NSS is continued with the insulin gtt at 5 units/hour, hypoglycemia can occur.

16. Answer: C
The patient failed to respond to the initial insulin infusion dose, which should have caused the serum glucose to drop by 50 mg/dL after each hour of therapy. Doubling the hourly infusion rate and continuing to monitor is the appropriate intervention under such a circumstance. Simply documenting and monitoring the patient will not achieve desirable results, as the patient will continue to produce ketone bodies. Increasing by 2 units/hr is inadequate because the client is failing to respond to a rate of 4 units/hr, and doubling the dose is the acceptable intervention. In this acute phase, it is too early to move to subcutaneous insulin, which has a slower rate of absorption than the intravenous route.

17. Answer: C
Regardless of the factors contributing to the development of disseminated intravascular coagulopathy, the definitive treatment is to eliminate the potential causes of the malady. Until this has been accomplished, the patient’s situation will continue to deteriorate. Use of heparin may or may not be useful for the patient experiencing DIC, depending on the factors related to the etiology. Subcutaneous administrations of any medication may lead to prolonged bleeding from the injection site and should be avoided, especially because the impairment of circulation would limit absorption. While supportive care is necessary, unless the cause of the DIC is addressed, the patient will not survive.

18. Answer = B
Rationale = a complication of blood transfusion is cell lysis. When the cells lyse the intracellular potassium is released. That is why it is standard of practice is to monitor electrolytes after every 2 units of PRBCs. Also monitor for dysrhythmias.
19. Answer = A
Rationale = the string of data doesn’t support septic or cardiogenic shock or MODS. This data does meet the definition of SIRS because there are at least 2 SIRS S&Sx being reported – fever and tachycardia. Technically we cannot state the patient is septic – WBC is high normal and cultures are negative, but we can state they we are suspecting it. Shock is not present (yet) because we have a WNL lactate in the presence of a low normal BP with adequate UO = 0.5/ml/kg/hr. MODS is not the answer because that would be the sequelae to shock and we only have possibly 1 organ involvement reported – CV. So by also process of elimination, A = SIRS is the answer.

20. Answer = C
Rationale = The data in answer C is reflective of liver, kidney and hematologic/bone marrow failure – 3 organ involvement. The values in answer A are all WNL. Answer B contains a WNL GCS and a borderline Hct. Choice D is only reflective of respiratory failure.

21. Answer: B
All of the other answers presume that the nurse knows what the patient is concerned about. Only B invites the patient to describe what he/she is truly concerned about.

22. Answer: B
An SVO2 of 50% indicates that the patient is not yet being adequately oxygenated, because he is still hypovolemic. Since RBCs carry oxygen to the tissues, the SVO2 is the only measurement of global oxygen utilization by the cells. If hypovolemia were corrected, the SVO2 would be normal, 60% - 80%. The pulse oximetry is showing that oxygen is not being adequately delivered to the cells, but does not give any information about tissues oxygen extraction. The CVP and PAWP are both in normal ranges, but low to middle.

23. Answer: B
The oliguric phase is the phase in which urine output is the lowest. Administering fluids at this time will not result in increased output, but in a greater fluid retention. At onset, the patient is making urine, although not of sufficient quantity. The kidneys are still somewhat responsive to diuretics. In the non-oliguric phase, the kidneys are putting out large amounts of fluid, but not filtering. Fluid intake is required to prevent hypovolemia. In the recovery phase, the kidneys are putting out sufficient quantities of urine, but the BUN and creatinine have not yet returned to normal.

24. Answer: B
In hypertensive crises, the patient is at risk for stroke. Frequent neurologic examination will identify stroke quickly, and measures can be taken to minimize the damage. Nursing activities performed in clusters can elevate blood pressure. Neo-Synephrine is a vasopressor and will increase blood pressure. Verapamil (Calan) is not effective for hypertensive crisis; it is used to decrease rapid heart rate or prevent spastic angina.

25. Answer: C
Both the symptoms and the sudden onset are strongly suggestive of a pulmonary embolus. No assessment of breath sounds is given, so a pneumothorax is unlikely. A myocardial infarction
would commonly present as severe, localized chest pain. All physiologic causes of the symptoms would have to be ruled out before considering anxiety as the cause.

26. Answer: B
The tidal volume settings for a patient with ARDS should be 5-8 mL/kg. An optimal tidal volume for this patient, then, is 350-560 mL. Excessive tidal volumes and high PEEP levels increase the risk of volutrauma and barotrauma, so the PEP should not be increased until the tidal volume is adjusted and PaO2 levels do not improve. Assist control is the preferred mode for a patient receiving neuromuscular blockade, since the ventilator provides every breath.

27. Answer: B
Because of the positive pressure ventilation and PEEP of 20, blood return to the right heart is diminished because of the increased intrapleural pressures affecting the inferior vena cava. Fluid is required to improve CO. Decreasing PEEP will result in inadequate tissue perfusion. Norepinephrine should not be administered before fluid resuscitation. Increasing the tidal volume will not improve CO and has been shown to increase mortality from ARDS.

28. Answer = B
Rationale = Increased Lactates are a by-product of anaerobic metabolism secondary to inadequate tissue oxygenation and perfusion. The best way to decrease lactic acid levels is by clearing the build up and flushing it out with proper adequate fluid resuscitation. This improves circulation, oxygenation of cells and thus tissue perfusion. Fluid resuscitation should be dictated by the cause – low blood volume = blood transfusion; dehydration = fluids, etc. Increased lactates are seen in patients with metabolic disorders such as DKA, Severe septic shock, trauma, burns, rhabdo. We are now trending lactates in septic shock like we do Trophinin I in acute MI.

29. Answer: C
In all of the other questions, the nurse is presuming that s/he knows what is concerning the patient. Only C allows the patient to describe his/her concerns.

30. Answer: D
Patients with inferior wall MI often complain of abdominal or gastrointestinal symptoms. A 12-lead ECG should be performed prior to administration of nitroglycerin in order to detect changes owing to ischemia. NG decompression should be attempted with caution in a patient on heparin. Troponin studies should be performed after the 12-lead ECG and nitroglycerin are administered.

31. Answer = D
Rationale = renal function may potentially decrease depending on how severe the liver failure is and if can reversed. Patients can develop HRS sequelae. RUQ pain is not typical but ALT and AST may have increased. It is imperative that these patients get monitored and treated immediately even though initially they present with no symptoms. Otherwise the jaundice, confusion and liver failure can become permanent requiring the need for transplant ( #1 reason for transplant in the US). After 4 days to 2 weeks symptoms will abate.
32. Answer = A  
Rationale = ITP is idiopathic thrombocytopenia purpura which is the result of a low platelet count. Platelets are destroyed early and systematically as a result of an autoimmune insult and response. Hemorrhages can occur in the brain which can lead to stroke, increase ICP and herniation.

33. Answer: B  
The nurse manager only feels that the number of contaminated blood cultures is excessive. S/he needs to track them to determine if s/he is correct. Observing the staff drawing blood cultures may identify some concerns with technique, but watching each nurse perform this task is time consuming and difficult to do. The nurse manager may hold a staff meeting after ascertaining that there is an actual problem on the unit, but the meeting would be ineffective without this information. Developing a poster is also not indicated prior to determining that a problem actually exists.

34. Answer = B  
Rationale = Dehydration is a severe complication because water re-absorption is normally accomplished by the colon. With an ileostomy a large portion or all of the large intestine is removed. Stoma prolapse would most likely occur at home and is r/t excessive exercise or exertion. Hypo not Hypernatremia is another serious complication because sodium reuptake also occurs in the colon. Hemorrhage is always a concern with any surgery but is a rare complication with ileostomy. If the stoma were to get scratched light pressure would stop the bleeding immediately and is not life-threatening.

35. Answer: D  
The CDC recommends that the HOB be elevated to at least 30o to prevent VAP. Research has shown that keeping the HOB at300 is effective in reducing VAP by preventing oral secretions from collecting on the cuff of the tube and entering the lungs. Oral care is recommended to keep the mouth moisturized, but brushing the plaque is necessary to help prevent VAP. Turning the patient on their left side will not prevent VAP; the patient should be turned every two hours to prevent skin breakdown. Blue food coloring should not be added to tube feedings.

36. Answer = A  
Rationale = In a normal doll’s eyes (oculocephalic reflex) the eyes appear to move to the opposite direction from head turn. Example – head turned quickly to left, eyes will move to far right side. If this reflex is absent, the eyes appear fixed and thus do not move, but appear to move in the same direction as the head turn. Absent doll’s eyes represent pontine and midbrain damage and may be part of the clinical exam to help determine brain death.

37. Answer: C  
Rationale: The patient is in acute renal failure. Given that the patient is fluid overloaded and hemodynamically unstable, continuous renal replacement therapy is the treatment modality of choice. Administering fluid boluses to a patient who is in the oliguric phase of ATN will worsen the fluid overload. Hemodialysis requires the patient to be hemodynamically stable. Peritoneal dialysis is not an option owing to the patient’s having recently undergone abdominal surgery.
38. Answer: A
In right ventricular myocardial infarction, the right ventricle is unable to maintain forward flow to the lungs without adequate preload. Intravenous fluid administration increases right ventricular volume and promotes forward flow to the lungs. Diuretics would diminish circulating volume and preload, and so would aggravate the problem. Nitroglycerin and morphine cause vasodilation which decreases preload and would diminish right ventricular filling and output, thus worsening myocardial ischemia.

39. Answer: C
Prior to teaching, the nurse should always first determine the knowledge level of the learner, what knowledge the nurse wants to impart, and the gap between the two. This is referred to as a gap analysis. Adult learners may already have knowledge that the nurse needs to be aware of in order to provide effective education.

40. Answer = B
Rationale = Patients wit GB experience motor weakness, impaired respiratory function and acute pain. Acutely, they will need critical care monitoring r/t the motor weakness that can include weakening of the respiratory muscles leading to acute respiratory distress. This sometimes requires mechanical ventilation. The acute pain is caused by an accentuated sympathetic response secondary to the loss of parasympathetic counterbalance.

41. Answer: D
Intestinal obstruction can occur in pregnant patients who have had prior operative procedures and may result from the enlarging uterus exerting pressure on preexisting adhesions. Obstruction of this nature is most common in the third trimester, and the symptoms are similar to those of a nonpregnant patient. Ectopic pregnancy would have evidenced and been detected before 26 weeks’ gestation. If an ectopic pregnancy goes undetected for 6 to 8 weeks, there is severe lower abdominal pain and fainting. These symptoms indicate rupture of the fallopian tube and hemorrhage. Abruptio placenta would present with fetal cardiac distress and maternal shock. Peptic ulcer disease presents with intermittent colicky pain, which increases 2 to 3 hours after meals. It can also occur in the middle of the night. Eating usually decreases the symptoms. It is not associated with fever.

42. Answer: B
Administration of insulin will help to correct the hyperglycemia associated with steroid administration and stress. This intervention should be followed by administration of IV fluids and electrolytes, as the patient has likely been experiencing polyuria. Low-dose insulin drip will require a greater period of time to correct the metabolic alterations but may be desirable at a later time. While the bicarbonate level is slightly decreased, administration of bicarbonate is not appropriate at this time, as this value will return to normal as fluids and electrolytes are replaced. This level of carbon dioxide may be a normal value for this patient, whose underlying respiratory diagnosis may result in carbon dioxide retention.

43. Answer: C
Patients with diabetes insipidus would be expected to be thirsty and produce large volumes of dilute urine. They will usually exhibit a decrease in blood pressure and increase in heart rate
related to hypovolemia secondary to an increased urinary output. Alterations in potassium level will occur as electrolytes are lost in the urine. However, tachycardia is expected with hypovolemia, and numbness and tingling in the extremities would be expected with a magnesium imbalance. Widened pulse pressure, pupillary changes, and posturing are symptoms produced by elevated intracranial pressure, not diabetes insipidus.

44. Answer: D
If hypovolemia is corrected, the SVO2 will be in normal ranges, 60% - 80%. An SVO2 of 45% indicates that oxygenation is still inadequate; the patient continues to need more RBCs; hypovolemia has not been corrected. Although a cardiac output of 5.0 L/min is better than 4.4 L/min; the increased SVR of 2100 dynes/sec/cm-5 indicates that compensatory mechanisms are still vasoconstricting the arterial system. An SVR of 1100 dynes/sec/cm-5 is normal.

45. Answer = C
Rationale = Correcting Hyponatremia is never supposed to be aggressive. Otherwise osmotic demyelinization occurs shrinking and lysing brain cells. If discovered early, fluid and electrolyte replacement can be slowed; otherwise permanent damage can occur such as quadriplegia, flaccidity and other neurological deficits. Seizure precautions should be implemented as well.

46. Answer: D
SIMV provides adequate tidal volume only for mandatory breaths. Assisted breaths receive only the tidal volume that the patient is able to generate. The patient is not receiving adequate volume for oxygenation. The tidal volume is not changed when a patient is weaning. It is the same as during their resting periods. The oxygen is adequate for the patient; they require their assisted breaths to be supported.

47. Answer: C
By increasing the PSV, the patient’s assisted breaths will be adequately supported, and she can exercise her muscles of respirations to the point where she is able to breath on her own. The PSV will be decreased as tolerated until it reached 8 cm H2O.

48. Answer = A
Rationale = the liver may become lacerated either by blunt or penetrating trauma. In blunt trauma, there is often fractures of the 7-9th right ribs which overlie and usually protect the liver. In this scenario, no history of the mechanism of injury is present, which is very important when diagnosing internal traumatic injuries. But we do know that RUQ tenderness will present with liver laceration. Rebound sensitivity and guarding will not present initially but usually 2 hours later when peritoneal irritation develops secondary to blood accumulation in the abdomen. Always suspect liver laceration with penetrating trauma that involves the right lower chest or right upper abdomen or when right upper quadrant tenderness accompanies blunt trauma.

49. Answer = B
Rationale = Splenic Injury should always be suspected when the 9th-10th ribs on the left are fractured since these ribs overlie the spleen, especially if LUQ tenderness and tachycardia are present. Left shoulder pain is also a common referred complaint. Again peritoneal signs are delayed until adequate blood accumulation has occurred to irritate the peritoneum. This usually
starts within 2 hours. This patient had been trapped for 2 hours. Worsening signs of active bleeding would include hypotension – a late sign.

50. Answer: B
A multidisciplinary conference would provide input from all disciplines; as a result, the problem would be considered from all aspects. Asking the physician to write an order is not correct; the physician is not well-versed in psycho-social and legal considerations. The medical-legal department should be included in the multidisciplinary conference, but should not make the decision alone. The patient is not in any condition to be pulled into the conflict.
**Bibliography**

AACN Corporation (1999). Synergy Model: Adult sample Questions


