

UNIVERSITY OF SWAZILAND

FACULTY OF HEALTH SCIENCES

FINAL EXAMINATION DECEMBER 2016

TITLE OF PAPER: ADVANCED MEDICAL/SURGICAL NURSING III

COURSE CODE: NUR 510

TIME ALLOWED: TWO (2) HOURS

MARKS: 75

INSTRUCTIONS:

1. THERE ARE THREE (3) QUESTIONS IN THIS PAPER.
2. ANSWER ALL THREE (3) QUESTIONS
3. EACH QUESTION IS ALLOCATED 25 MARKS
4. WRITE LEGIBLE

THIS PAPER IS NOT TO BE OPENED UNTIL THE INVIGILATOR HAS GRANTED PERMISSION.

QUESTION 1

Case study: You are nursing 62 year old Mrs. Moy in the Intensive Care Unit (ICU), she has been diagnosed with myocardial infarction. Her body mass index is 45kg/m^2 , waist 100 cm, total cholesterol profile 300 mg/dl, low density lipoprotein (LDL) cholesterol level is high. The physiotherapist visits Mrs Moy to assist her with exercises. Mrs Moy reports that she smokes cigarettes since the age of 25 years. Mrs Moy's condition is now stable and is being prepared for transfer to the general ward.

- A. Low density lipoprotein (LDL) cholesterol is referred to as "bad cholesterol".
Explain. (5)
- B. Briefly describe the conservative management of elevated LDL. (5)
- C. Describe how physical exercises will benefit Mrs. Moy.
(10)
- D. In educating Mrs. Moy, you advised her to gradually reduce the number of cigarettes she takes per day. Explain how smoking not good for Mrs. Moy's health. (5)

TOTAL 25 MARKS

QUESTION 2

Case Study: 62 year-old, 70 kg man admitted for a small bowel obstruction was transferred to the ICU after aspirating a large volume of gastric contents. He is severely tachypneic and hypoxemic despite supplemental oxygen delivered via a non-rebreather face mask. You decide to intubate and initiate mechanical ventilation. The initial mechanical ventilator settings are volume-cycled Assist-control mode (A/C), Rate=12, Tidal Volume (VT) = 560 ml/breath, FIO₂ = 100%, PEEP = 5.

- A. Describe what assist-control ventilation (A/C) means. What is the advantage and disadvantage of A/C ventilation? (4)
- B. The patient drops his blood pressure several minutes after initiation of mechanical ventilation. What are two possible causes of hypotension associated with initiation of mechanical ventilation? Describe an appropriate nursing intervention for each cause discussed. (4)
- C. The patient continues to demonstrate worsening oxygenation with a SpO₂ of 86% on a FIO₂ of 100%. What alteration to the ventilator settings is the best option for improving oxygenation in this patient? How would you evaluate the effectiveness of this intervention? (2)
- D. The patient's ABG after the ventilator adjustment reveals pH = 7.25, PaCO₂ = 69, PaO₂ = 92, HCO₃ = 28. What ventilator adjustment may improve this patient's hypercapnia and why? (2)
- E. The patient's ventilator suddenly begins to continuously alarm because of high airway pressures. The patient is diaphoretic and visibly uncomfortable on the ventilator. What should your first intervention be and why? (2)
- F. The patient's chest X-ray reveals bilateral, diffuse patchy infiltrates which appears as a near complete "white-out". What pulmonary disorder is most consistent with the patient's clinical history and diagnostic findings? (1)
- G. Describe the pathophysiology of the patient's disease process? (5)
- H. Describe the medical and nursing management of this individual including ventilator strategies. (5)

TOTAL = 25 MARKS

QUESTION 3

Instructions: Below are multiple choice questions. For each question or statement select the most correct response. In your answer sheet write the letter that corresponds with your response e.g. 10. C

1. Interpret the following blood gas.

PaO₂ 78

PaCO₂ 29

pH 7.29

HCO₃ 14 BE - 10

- A. Respiratory alkalosis
 - B. Respiratory acidosis
 - C. Metabolic acidosis
 - D. Metabolic alkalosis
2. During surgery, Mrs. Zibert develops malignant hyperthermia. Which one of the following is the priority in your nursing interventions?
- A. Aggressive cooling
 - B. Potassium boluses
 - C. Sodium citrate
 - D. Dantrolene
3. Mrs. Greir develops hypercarbia and hypoxemia following extubation. She is started on BiPAP in an effort to avoid reintubation. Which one of the following interventions should be included in her plan of care.
- A. Integumentary inspection of nose and face
 - B. Nasal-tracheal suctioning to facilitate secretion clearance
 - C. Oral intake of high calorie milk shakes.
 - D. Administer regular dose benzodiazepines

4. Mrs. Farmer is started on neuromuscular blocking agents (NMBAs). Which one of the following interventions is a priority?
- Maintain eyes in closed position
 - Use of oral hydration solutions
 - Titrate sedation
 - Administer analgesia
5. Martha is admitted following a motor vehicle collision. Her past medical history includes daily prednisone for the treatment of systemic lupus. Despite fluid replacement therapy and initiation of levophed, her blood pressure remains low. Which one of the following interventions is the priority?
- Administer Cosyntropin
 - Administer Epinephrine
 - Administer Hydrocortisone
 - Administer Vasopressin
6. Mrs. Tam is recovery from a prolonged critical life threatening illness. She is having tracheostomy-mask. She is withdrawn and sad, and indicates to the nurse that she no longer has any control of her life. Which one of the following interventions would best meet her needs?
- Initiate antidepressant therapy
 - Administer sedation at bedtime
 - Develop a collaborative plan of care
 - Refer Mrs. Tam to a psychiatrist
7. Which one of the following findings is most suggestive of pulmonary embolus?
- Hypercarbia, hypoxemia and respiratory distress
 - Clear chest, severe hypoxemia, and respiratory alkalosis
 - Orthopnea, hemoptysis and pulmonary artery dilation
 - Cardiac enlargement, hypercarbia and increased minute ventilation

8. A 5-year-old previously healthy boy is admitted to the intensive care unit with a 12-hour history of fever, severe headache, and vomiting. Physical examination reveals a febrile, lethargic child with tachycardia, neck stiffness, and poor peripheral perfusion. Soon after arrival in the intensive care unit, he develops a purple nonblanching rash on his lower extremities. The most likely etiology for his illness is:
- A. Henoch-Schonleinpurpura.
 - B. *Streptococcus pneumoniae*.
 - C. Acute lymphocytic leukemia.
 - D. *Neisseria meningitis*.
9. 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 101.8°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
10. A client is experiencing tachycardia. The nurse's understanding of the physiological basis for this symptom is explained by which of the following statements?
- A. The demand for oxygen is decreased because of pleural involvement
 - B. The inflammatory process causes the body to demand more oxygen to meet its needs.
 - C. Respirations are labored.
 - D. The heart has to pump faster to meet the demand for oxygen when there is lowered arterial oxygen tension.

11. Which of the following types of pain is most characteristic of angina?
- A. Shooting
 - B. Sharp
 - C. Knifelike
 - D. Tightness
12. In which stage of induction with general anesthesia do uncontrolled movement and potentially dangerous responses to painful stimuli occur?
- A. Stage I / stage of analgesia
 - B. Stage II / stage of delirium
 - C. Stage III/ stage of surgical anesthesia
 - D. Stage IV / stage of overdose
13. During this stage of induction with general anesthesia the patient "response to surgical incision absent". Which is this stage?
- A. Stage I / stage of analgesia
 - B. Stage II / stage of delirium
 - C. Stage III/ stage of surgical anesthesia
 - D. Stage IV / stage of overdose
14. Following a treadmill test and cardiac catheterization, the client is found to have coronary artery disease (CAD), which is inoperative. He is referred to the cardiac rehabilitation unit. During his first visit to the unit he says that he doesn't understand why he needs to be there because there is nothing that can be done to make him better. The best nursing response is:
- A. "Do you feel that you will have to make some changes in your life now?"
 - B. "Cardiac rehabilitation is not a cure but can help restore you to many of your former activities."
 - C. "you are probably right but we can gradually increase your activities so that you can live a more active life."
 - D. "Here we teach you to gradually change your lifestyle to accommodate your heart disease."

15. Suffering from a life threatening conditions increases stress levels in the patient's body, increasing the risk of developing stress-related disorders including gastric ulcers. What gastric ulcer prophylactic do patients in ICU receive?

- A. Glycopyrrolate
- B. Magnesium trisilicate
- C. Metoclopramide
- D. Ranitidine

16. A client with a potassium level of 5.5 mEq/L is to receive sodium polystyrene sulfonate (Kayexalate) orally. After administering the drug, the priority nursing action is to monitor

- A. Urine output
- B. Blood pressure
- C. Bowel movements
- D. ECG for tall, peaked T waves.

17. When signing a form as a witness, your signature shows that the client:

- A. Is fully informed and is aware of all consequences
- B. Was awake and fully alert and not medicated with narcotics
- C. Was free to sign without pressure
- D. Understands the language of the form

18. A nurse is taking the history of a client with suspected coronary artery disease. Recently, the client has had episodes of chest discomfort while mowing the lawn with a push mower. The chest discomfort subsides when the client rests. What conclusion can the nurse draw from this information?

- A. The client may have variant angina
- B. The client may have stable angina
- C. The client may have had a myocardial infarction
- D. The client need not be concerned about this pain, because it is relieved with rest.

19. A client hospitalized for unstable angina has undergone laboratory assessment. Which laboratory test is most specific in diagnosing acute coronary syndrome?

- A. Troponin I
- B. Serum LDH
- C. Serum myoglobin
- D. CK-MB isoenzyme

20. All of the following are used in the immediate treatment of a Myocardial Infarction (MI) **EXCEPT**?

- A. Oxygen
- B. Aspirin
- C. Statins
- D. Nitro-glycerine

21. A nursing student is planning care for an elderly patient who is experiencing pain. Which of the following statements made by the nursing student is correct?

- A. "Increased pain is a normal and accepted part of aging."
- B. "It is safe to administer opioids to older adults as long as you start with small doses and frequently assess the patient's response to the medication."
- C. "As adults age, their ability to perceive pain decreases."
- D. "Patients who have dementia probably do not experience pain because their pain receptors in their brain have deteriorated"

22. The nurse is caring for a patient who suddenly experiences chest pain. What is the nurse's first priority?

- A. Initiate the emergency response system
- B. Raise the head of the bed.
- C. Administer pain relief medications.
- D. Ask the patient to rate and describe the pain.

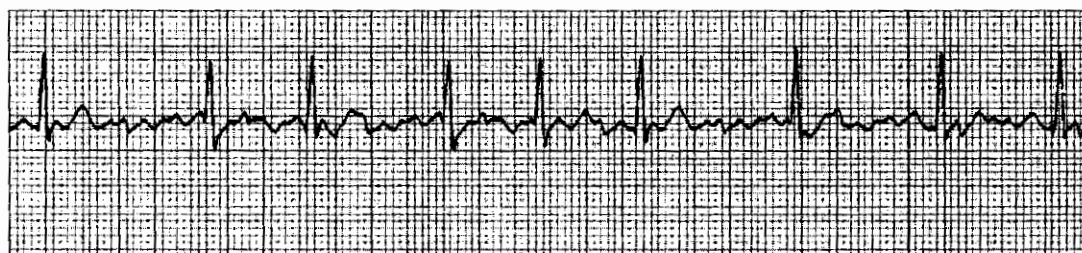
23. A woman who is having a myocardial infarction may experience which set of symptoms instead of intense pain or pressure in the chest?

- A. Moderate ache in the chest that is worse on inspiration
- B. Sudden, intermittent, stabbing pain
- C. Indigestion, feelings of chronic fatigue, and a choking sensation
- D. Pain that spreads across the chest and back and/or radiates down the arm

24. A patient presents with respiratory insufficiency and is admitted to the ICU. He has a significant history of cigarette smoking and COPD. An ABG is obtained. Which of the following would indicate an acute on chronic respiratory failure requiring intubation?

- A. PaCO₂ of 64 mmHg
- B. PaO₂ of 60 mmHg
- C. SaO₂ of 90%
- D. pH 7.28

25. Your patient develops the following rhythm. As the nurse you know the correct interpretation and intervention for this dysrhythmia is



- A. Atrial Fibrillation; the patient may need anticoagulation to prevent the risk of embolism
- B. Atrial Flutter; the patient needs immediate synchronized cardioversion if symptomatic
- C. Ventricular Fibrillation; initiate emergency response, defibrillate as soon as possible
- D. Sinus Arrhythmia; usually asymptomatic and no intervention necessary

TOTAL = 25 MARKS