UNIVERSITY OF SWAZILAND

FACULTY OF HEALTH SCIENCES

FINAL EXAMINATION

MAY 2007

COURSE CODE   : NUR 500

COURSE NAME   : ADVANCED MEDICAL-SURGICAL NURSING II

TIME ALLOWED   : 3 Hrs

MARKS ALLOCATED   : 100

INSTRUCTIONS

1. Answer all questions.

2. Read questions carefully

3. Question 1 is multiple choice type, select the best answer e.g 1 – a

4. Each correct fact is worth ½ mark unless indicated otherwise

5. Write clearly

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Question 1

1. A 65 year old female is admitted to the unit with chest pain. Physically, she has no shortness of breath or orthopnoea, some noticeable jugular venous distension and clear breath sounds. Her ECG shows large R waves in V_1 and V_2. Hemodynamic studies reveal the following:

Blood pressure	102/72mmHg
Pulse	105beats/min
Pulmonary artery pressure	30/16mmHg
Pulmonary capillary wedge pressure	13mmHg
Central venous pressure	16mmHg
Cardiac output	4.6
Cardiac index	2.4

Based on the above information, which condition is likely to be present?

a. right ventricular hypertrophy
b. right ventricular infarction
c. left ventricular infarction
d. pericardial tamponade.

2. Hemodynamic support of the above patient would most likely include which of the following strategies?

a. Fluids to keep the CVP elevated
b. Diuretics to reduce the CVP
c. Dopamine to increase the blood pressure
d. Nitroglycerine to reduce the preload.

3. Which type of medication is common in the treatment of unstable angina?

a. Diuretics
b. Vasodilators
c. Beta blockers
d. Sympathetic stimulants

4. Physical signs associated with CHF (congestive heart failure) include all but one of the following. Identify the one sign that is not associated with CHF

a. Dependent crackles
b. S_3 heart sound
c. Dependent oedema
d. Kussmaul respirations

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5. Furosemide (lasix) is considered to affect primarily which component of stroke volume?

    a. Preload
    b. Afterload
    c. Contractility
    d. Aortic distensibility

6. What would be the correct interpretation of the following blood gas values?

pH	7.35
$PaCO_2$	72mmHg
HCO_3^-	41mEq/L

    a. Respiratory acidosis alone
    b. Respiratory acidosis with compensating alkalosis
    c. Metabolic alkalosis alone
    d. Metabolic acidosis with compensating respiratory alkalosis

7. What would be the correct interpretation of the following blood gas values?

pH	7.22
$PaCO_2$	64mmHg
HCO_3^-	24mEq/L

    a. Respiratory acidosis alone
    b. Respiratory acidosis with compensating metabolic alkalosis
    c. Metabolic alkalosis alone
    d. Metabolic acidosis with compensating respiratory alkalosis

8. What would be the correct interpretation of the following blood gas values?

pH	7.53
$PaCO_2$	36mmHg
HCO_3^-	36mEq/L

    a. Respiratory acidosis alone
    b. Respiratory acidosis with compensating metabolic alkalosis
    c. Metabolic alkalosis alone
    d. Metabolic acidosis with compensating respiratory alkalosis

9. What would be the correct interpretation of the following blood gas values?

pH	7.55
$PaCO_2$	22mmHg
HCO_3^-	26mEq/L

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a. Respiratory alkalosis alone
b. Respiratory alkalosis with compensating metabolic acidosis
c. Metabolic alkalosis alone
d. Metabolic acidosis with compensating respiratory alkalosis

10. What would be the correct interpretation of the following blood gas values?

pH	7.36
$PaCO_2$	24mmHg
HCO_3^-	14mEq/L

a. Respiratory alkalosis alone
b. Respiratory alkalosis with compensating metabolic alkalosis
c. Metabolic alkalosis alone
d. Metabolic acidosis with compensating respiratory alkalosis

11. A 51 year old female is admitted to your unit with hypotension, bradycardia and decreased level of consciousness. Her core temperature is 35.5^0C. The temperature in her apartment was 25^0C. No history is available regarding prior medical problems. She appears to be overweight with dry scaly skin and puffy face and lips. Blood gas analysis reveals the following information:

pH	7.25
$PaCO_2$	56mmHg
PaO_2	63mmHg

Shortly after admission she has a grand mal seizure. She is intubated and placed on a mechanical ventilator. Based on the preceding information, which condition is likely to be developing?

a. Acute congestive heart failure (CHF)
b. Adult respiratory distress syndrome (ARDS
c. Thyroid crisis
d. Myxedema coma

12. Which treatment would be required to correct this condition?
a. Dobutamine (50mg/Kg/min)
b. Cooling blanket
c. Levothyroxine (0.2mg)
d. Calcitonin (2mg/Kg/min)

13. Which of the following is not a common precipitating factor of myxedema coma?
a. Stress
b. Exposure to heat
c. Infection
d. Exposure to cold

14. A 57 year old female is admitted to your unit following a seizure at home. She has a history of seizures. The family describes the patient as not feeling well for several days and as having not eaten or taken fluids normally during this time. Her vital signs and laboratory data are as follows:

Blood pressure	92/52 mmHg
Pulse	108b/min
Respiratory rate	31 breaths/min
Glucose	1029mg/dl
Osmolality	389 mOsm/kg
PaO_2	79mmHg
$PaCO_2$	30mmHg
pH	7.29
Na^+	7.29mEq/L
K^+	149mEq/L
HCO_3^-	20mEq/L

Based on the above information what condition is likely to be developing?
a. Adrenal crisis
b. Thyroid storm
c. Hyperosmolar, hyperglycemic and non- ketotic coma
d. Diabetic ketoacidosis (DKA)

15. A 64 year old female is in your unit after a hepatic resection for cancer. During her second post operative day she complains of generalized discomfort with no change in incisional pain. She feels warm to the touch and her vital signs indicate the following:

Blood pressure	96/56
Pulse	115beats/min
Respiratory rate	28breaths /min
Temperature	$39^0 C$

Lung sounds have scattered crackles throughout both lungs. Pulmonary artery catheter readings provide the following information:

Cardiac index	$5.9L/min/m^2$
Arterial pressure	28/14mmHg
PCWP	12mmHg
CVP	4mmHg
PaO_2	74mmHg
$PaCO_2$	30mmHg
pH	7.32
FIO_2	0.40

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Based on the above information, which condition is likely to be occurring?

    a. Sepsis
    b. Congestive heart failure
    c. Pneumonia
    d. Adult respiratory distress syndrome (ARDS

16. Which treatment would most likely be instituted in the condition above?
    a. Mechanical ventilation
    b. Amphotericin B and fluid bolus
    c. Fluid bolus and triple antibiotics
    d. Amphotericin B and fluid restriction

17. Nursing care of the patient receiving thrombolytic therapy includes which of the following?
    a. Avoiding intramuscular injections and using a soft tooth brush
    b. Avoiding intramuscular injections and using oximetry rather than blood gas studies for SaO_2 determination
    c. Using a soft tooth brush and using oximetry rather than blood gas studies for SaO_2 determination
    d. All of the above

18. A 46 year old is in your unit following an episode of acute respiratory distress (ARD) after radiation therapy for cell lung cancer. His urine output decrease on day three of his intensive care unit stay to 20ml /hr. the physician asks you to call him if the patient's blood urea nitrogen (BUN)/creatinine ratio becomes abnormal. The following laboratory data are available:

    Serum BUN   64mg/dl
    Serum creatinine   2mg/dl
    Urine Na^+ 76mEq/LBased on the above information, is the BUN/creatinine ratio abnormal and should you call the physician?

    a. The BUN/creatinine level is normal, do not call the physician
    b. The BUN/creatinine level is low, call the physician
    c. The BUN/creatinine level is high, call the physician
    d. BUN/creatinine ratios cannot be calculated without urinary creatinine and the BUN values.

19. In the presence of oliguria, a BUN/creatinine ratio greater than normal suggests that which condition has developed?
    a. Pre-renal failure
    b. Renal failure
    c. Post renal failure
    d. Acute tubular necrosis

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20. A 64 year old male is in your unit following a fire in the chair he was sitting on after being ignited by a cigarette. He is burned over 40% of his body (mostly the back and lower extremities). It is now 24hrs since he sustained the burns. He complains of pain in both feet, but particularly his right. His right leg is covered with eschar. He has no Doppler pulse on his right foot. Based on the above information, which method of pain relief would be the most appropriate?
    a. Escharotomy
    b. Intramuscular Demerol
    c. Ace bandage wrapped to the lower extremities to decrease swelling.
    d. Elevation of legs.

21. In this patient what will be the advantage to performing an escharotomy?
    a. Pain relief and improvement of the circulation
    b. Faster healing of the burned wound
    c. Reduction in postburn scarring
    d. Decreases need for IV antibiotics

22. A17 year old male is admitted following an electric shock injury. His friends state that he was climbing a ladder when a pole he was carrying touched the power line. He fell from the ladder and was unresponsive. His friends immediately brought him to the emergency room.

    Based on the preceding description, which conditions could be anticipated to be present during the first 24 hours of intensive care unit amission?
    a. Cardiac dysrythmias
    b. Lower fluid requirements since open wounds are small
    c. Little to no pain
    d. Elevated Hb

23. A 71 year old female is admitted to your unit with possible cerebro-vascular accident (CVA). She is currently responsive to painful stimuli and has a Glasgow Coma Score of 8. Her blood pressure is 180/100mmHg, pulse 64 beats/min, respirations 12 breaths /min. Her pupils are equal and reactive. During your shift you note that her level of consciousness suddenly decreases. Upon examination of her eyes, you note that the left pupil is larger and unreactive to light. Vital signs are:

Blood pressure	192/114mmHg
Pulse	56 beats/min
Respirations	10 breaths/min
Blood sugar	70mg/dl

Based on the above information what has most likely occurred?
    a. Decreasing intracranial pressure (ICP) has caused negative dysfunction of the second (optic) cranial nerve.
    b. Hypoglycemia has occurred
    c. Increasing mean arterial pressure (MP) has decreased cerebral perfusion

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d. Increasing ICP has compressed the third (oculomotor) cranial nerve

24. What is the prognostic implication of herniation through the foramen magnum?
    a. With aggressive treatment, neurological function can be recovered
    b. Neurological function is unlikely to be recovered
    c. Visual defects are likely to be permanent but other neurological functions will recover
    d. No implication regarding neurological recovery can be drawn.
25. A 76 year old female is admitted to your unit with vomiting, nausea and diffuse abdominal pain. The vomitus has a fecal odour. She had a Cholecystectomy in the past but has been in good health until the development of abdominal pain two days ago. The abdomen has a hyperresonant sound on percussion, with the patient complaining of tenderness to palpation. Laboratory data are normal.

Based on the preceding information, which condition is likely to be developing?
    a. Bowel obstruction
    b. Mesenteric artery occlusion
    c. Pyloric stenosis
    d. Obstruction of the pancreatic duct

[TOTAL MARKS = 25]

QUESTION 2

A. Describe the roles of the critical care nurse   (5)

B. Discuss the eight steps in ~~critical~~ *ethical* decision making process.   (8)

C. Discuss the nursing failures that lead to legal implications. Use the following headings.

Assessment failures	(2)
Planning failures	(2)
Implementation failures	(6)
Evaluation failures	(2)

[TOTAL MARKS = 25]

QUESTION 3

A. Describe the behavioural and physiologic indicators for pain assessment.   (10)

B. Discuss how you document pain assessment.   (5)

C. Describe the causes of delirium in critically ill patients.   (5)

D. Discuss the pharmacologic management of sedation.   (5)

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QUESTION 4

A. Discuss the nursing interventions that can be done in an acute cardiac patient. (10)

B. Describe the patient education you can give to a patient scheduled for a craniotomy, pre and post surgery   (5)

C. Formulate the nursing care plan of a patient with acute renal failure using the following nursing diagnosis: **excess fluid volume related to renal dysfunction,** under the following subheadings.

        i. Defining characteristics   (5)

        ii. Outcome criteria   (2)

        iii. Nursing interventions   (3)

[TOTAL MARKS = 25]

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