

NR 340 Week 7 Exam Three (Questions with Answer and Explanations)

1) A client admitted to the hospital with a subarachnoid hemorrhage has complaints of severe headache, nuchal rigidity, and projectile vomiting. The nurse knows lumbar puncture (LP) would be contraindicated in this client in which of the following circumstances?

1. Vomiting continues
2. Intracranial pressure (ICP) is increased
3. The client needs mechanical ventilation
4. Blood is anticipated in the cerebrospinal fluid (CSF)

Sudden removal of CSF results in pressures lower in the lumbar area than the brain and favors herniation of the brain; therefore, LP is contraindicated with increased ICP. Vomiting may be caused by reasons other than increased ICP; therefore, LP isn't strictly contraindicated. An LP may be performed on clients needing mechanical ventilation. Blood in the CSF is diagnostic for subarachnoid hemorrhage and was obtained before signs and symptoms of ICP.

2) A client with a subdural hematoma becomes restless and confused, with dilation of the ipsilateral pupil. The physician orders mannitol for which of the following reasons?

1. To reduce intraocular pressure
2. To prevent acute tubular necrosis
3. To promote osmotic diuresis to decrease ICP
4. To draw water into the vascular system to increase blood pressure

Mannitol promotes osmotic diuresis by increasing the pressure gradient, drawing fluid from intracellular to intravascular spaces. Although mannitol is used for all the reasons described, the reduction of ICP in this client is a concern.

3) A client with subdural hematoma was given mannitol to decrease intracranial pressure (ICP). Which of the following results would best show the mannitol was effective?

1. Urine output increases
2. Pupils are 8 mm and nonreactive
3. Systolic blood pressure remains at 150 mm Hg
4. ICP level of 12

Mannitol promotes osmotic diuresis by increasing the pressure gradient in the renal tubes, so urine output would increase; however, the reason mannitol was given was to decrease ICP. An ICP level of 12 is within normal limits. Fixed and dilated pupils are symptoms of increased ICP or cranial nerve damage. No information is given that mannitol is being given for renal dysfunction or blood pressure maintenance.

4) Which of the following values is considered normal for ICP?

1. 0 to 15 mm Hg
2. 25 mm Hg
3. 35 to 45 mm Hg
4. 120/80 mm Hg

Normal ICP is 0-15 mm Hg.

5) Which of the following signs and symptoms of increased ICP after head trauma would appear first?

1. Bradycardia
2. Large amounts of very dilute urine
3. Restlessness and confusion
4. Widened pulse pressure

The earliest symptom of elevated ICP is a change in mental status. Bradycardia, widened pulse pressure, and bradypnea occur later. The client may void large amounts of very dilute urine if there's damage to the posterior pituitary.

6) The nurse is assessing the motor function of an unconscious client. The nurse would plan to use which of the following to test the client's peripheral response to pain?

1. Sternal rub
2. Pressure on the orbital rim
3. Squeezing the sternocleidomastoid muscle
4. Nail bed pressure

Motor testing on the unconscious client can be done only by testing response to painful stimuli. Nailbed pressure tests a basic peripheral response. Cerebral responses to pain are testing using sternal rub, placing upward pressure on the orbital rim, or squeezing the clavicle or sternocleidomastoid muscle.

7) The client is having a lumbar puncture performed. The nurse would plan to place the client in which position for the procedure?

1. Side-lying, with legs pulled up and head bent down onto the chest
2. Side-lying, with a pillow under the hip
3. Prone, in a slight Trendelenburg's position
4. Prone, with a pillow under the abdomen.

The client undergoing lumbar puncture is positioned lying on the side, with the legs pulled up to the abdomen, and with the head bent down onto the chest. This position helps to open the spaces between the vertebrae.

8) A nurse is assisting with caloric testing of the oculovestibular reflex of an unconscious client. Cold water is injected into the left auditory canal. The client exhibits eye conjugate movements toward the left followed by a rapid nystagmus toward the right. The nurse understands that this indicates the client has:

1. A cerebral lesion
2. A temporal lesion
3. An intact brainstem
4. Brain death

Caloric testing provides information about differentiating between cerebellar and brainstem lesions. After determining patency of the ear canal, cold or warm water is injected in the auditory canal. A normal response that indicates intact function of cranial nerves III, IV, and VIII is conjugate eye movements toward the side being irrigated, followed by rapid nystagmus to the opposite side. Absent or dysconjugate eye movements indicate brainstem damage.

9) The nurse is caring for the client with increased intracranial pressure. The nurse would note which of the following trends in vital signs if the ICP is rising?

1. Increasing temperature, increasing pulse, increasing respirations, decreasing systolic blood pressure.
2. Increasing temperature, decreasing pulse, decreasing respirations, increasing systolic blood pressure.
3. Decreasing temperature, decreasing pulse, increasing respirations, decreasing systolic blood pressure.

4. Decreasing temperature, increasing pulse, decreasing respirations, increasing systolic blood pressure.

A change in vital signs may be a late sign of increased intracranial pressure. Trends include increasing temperature and systolic blood pressure, and decreasing pulse and respirations. Respiratory irregularities also may arise. (Cushing's Triad)

10) The nurse is evaluating the status of a client who had a craniotomy 3 days ago. The nurse would suspect the client is developing meningitis as a complication of surgery if the client exhibits:

1. A positive Brudzinski's sign
2. A negative Kernig's sign
3. Absence of nuchal rigidity
4. A Glasgow Coma Scale score of 15

Signs of meningeal irritation compatible with meningitis include nuchal rigidity, positive Brudzinski's sign, and positive Kernig's sign. Nuchal rigidity is characterized by a stiff neck and soreness, which is especially noticeable when the neck is fixed. Kernig's sign is positive when the client feels pain and spasm of the hamstring muscles when the knee and thigh are extended from a flexed-right angle position. Brudzinski's sign is positive when the client flexes the hips and knees in response to the nurse gently flexing the head and neck onto the chest. A Glasgow Coma Scale of 15 is a perfect score and indicates the client is awake and alert with no neurological deficits.

11) During the acute stage of meningitis, a 3-year-old child is restless and irritable. Which of the following would be most appropriate to institute?

1. Limiting conversation with the child
2. Keeping extraneous noise to a minimum
3. Allowing the child to play in the bathtub
4. Performing treatments quickly

A child in the acute stage of meningitis is irritable and hypersensitive to loud noise and light. Therefore, extraneous noise should be minimized and bright lights avoided as much as possible. There is no need to limit conversations with the child. However, the nurse should speak in a calm, gentle, reassuring voice.

The child needs gentle and calm bathing. Because of the acuteness of the infection, sponge baths would be more appropriate than tub baths. Although treatments need to be completed as quickly as possible to prevent overstressing the child, any treatments should be performed carefully and at a pace that avoids sudden movements to prevent startling the child and subsequently increasing intracranial pressure.

12) Which of the following would lead the nurse to suspect that a child with meningitis has developed disseminated intravascular coagulation?

1. Hemorrhagic skin rash
2. Edema
3. Cyanosis
4. Dyspnea on exertion

DIC is characterized by skin petechiae and a purpuric skin rash caused by spontaneous bleeding into the tissues. An abnormal coagulation phenomenon causes the condition.

13) The nurse is assessing a child diagnosed with a brain tumor. Which of the following signs and symptoms would the nurse expect the child to demonstrate? Select all that apply.

1. Head tilt
2. Vomiting
3. Polydipsia
4. Lethargy
5. Increased appetite
6. Increased pulse

1, 2, 4. Head tilt, vomiting, and lethargy are classic signs assessed in a child with a brain tumor. Clinical manifestations are the result of location and size of the tumor.

14) A lumbar puncture is performed on a child suspected of having bacterial meningitis. CSF is obtained for analysis. A nurse reviews the results of the CSF analysis and determines that which of the following results would verify the diagnosis?

1. Cloudy CSF, decreased protein, and decreased glucose
2. Cloudy CSF, elevated protein, and decreased glucose
3. Clear CSF, elevated protein, and decreased glucose
4. Clear CSF, decreased pressure, and elevated protein

A diagnosis of meningitis is made by testing CSF obtained by lumbar puncture. In the case of bacterial meningitis, findings usually include an elevated pressure, turbid or cloudy CSF, elevated leukocytes, elevated protein, and decreased glucose levels.

15) A nurse is reviewing the record of a client with increased ICP and notes that the client has exhibited signs of decerebrate posturing. On assessment of the client, the nurse would expect to note which of the following if this type of posturing was present?

1. Abnormal flexion of the upper extremities and extension of the lower extremities
2. Rigid extension and pronation of the arms and legs
3. Rigid flexion of all extremities
4. Flaccid paralysis of all extremities

2. Decerebrate posturing is characterized by the rigid extension and pronation of the arms and legs.

16. If a client experienced a cerebrovascular accident (CVA) that damaged the hypothalamus, the nurse would anticipate that the client has problems with:

- a. body temperature control.
- b. balance and equilibrium.
- c. visual acuity.
- d. thinking and reasoning.

Answer A. The body's thermostat is located in the hypothalamus; therefore, injury to that area can cause problems of body temperature control. Balance and equilibrium problems are related to cerebellar damage. Visual acuity problems would occur following occipital or optic nerve injury. Thinking and reasoning problems are the result of injury to the cerebrum.

17. After striking his head on a tree while falling from a ladder, a young man, age 18, is

admitted to the emergency department. He's unconscious and his pupils are nonreactive. Which intervention would be the most dangerous for the client?

- a. Give him a barbiturate.
- b. Place him on mechanical ventilation.
- c. Perform a lumbar puncture.
- d. Elevate the head of his bed.

Answer C. The client's history and assessment suggest that he may have increased intracranial pressure (ICP). If this is the case, lumbar puncture shouldn't be done because it can quickly decompress the central nervous system and, thereby, cause additional damage. After a head injury, barbiturates may be given to prevent seizures; mechanical ventilation may be required if breathing deteriorates; and elevating the head of the bed may be used to reduce ICP.

18. The nurse is performing a mental status examination on a client diagnosed with subdural hematoma. This test assesses which of the following?

- a. Cerebellar function
- b. Intellectual function
- c. Cerebral function
- d. Sensory function

Answer C. The mental status examination assesses functions governed by the cerebrum. Some of these are orientation, attention span, judgment, and abstract reasoning. Intellectual functioning isn't the only cerebral activity. Cerebellar function testing assesses coordination, equilibrium, and fine motor movement. Sensory function testing involves assessment of pain, light-touch sensation, and temperature discrimination.

19. Shortly after admission to an acute care facility, a client with a seizure disorder develops status epilepticus. The physician orders diazepam (Valium) 10 mg I.V. stat. How soon can the nurse administer a second dose of diazepam, if needed and prescribed?

- a. In 30 to 45 seconds
- b. In 10 to 15 minutes
- c. In 30 to 45 minutes
- d. In 1 to 2 hours

Answer B. When used to treat status epilepticus, diazepam may be given every 10 to 15 minutes, as needed, to a maximum dose of 30 mg. The nurse can repeat the regimen in 2 to 4 hours, if necessary, but the total dose shouldn't exceed 100 mg in 24 hours. The nurse must not administer I.V. diazepam faster than 5 mg/minute. Therefore, the dose can't be repeated in 30 to 45 seconds because the first dose wouldn't have been administered completely by that time. Waiting longer than 15 minutes to repeat the dose would increase the client's risk of complications associated with status epilepticus.

20. A client is admitted with a cervical spine injury sustained during a diving accident. When planning this client's care, the nurse should assign highest priority to which nursing diagnosis?

- a. Impaired physical mobility
- b. Ineffective breathing pattern
- c. Disturbed sensory perception (tactile)
- d. Self-care deficient: Dressing/grooming

Answer B. Because a cervical spine injury can cause respiratory distress, the nurse should take immediate action to maintain a patent airway and provide adequate oxygenation. The other options may be appropriate for a client with a spinal cord injury — particularly during the course of recovery — but don't take precedence over a diagnosis of Ineffective breathing pattern.

21. A client who was trapped inside a car for hours after a head-on collision is rushed to the emergency department with multiple injuries. During the neurologic examination, the client responds to painful stimuli with decerebrate posturing. This finding indicates damage to which part of the brain?

- a. Diencephalon
- b. Medulla
- c. Midbrain
- d. Cortex

Answer C. Decerebrate posturing, characterized by abnormal extension in response to painful stimuli, indicates damage to the midbrain. With damage to the diencephalon or cortex, abnormal flexion (decorticate posturing) occurs when a painful stimulus is applied. Damage to the medulla results in flaccidity.

22. The nurse is caring for a client diagnosed with a cerebral aneurysm who reports a severe headache. Which action should the nurse perform?

- a. Sit with the client for a few minutes.
- b. Administer an analgesic.
- c. Inform the nurse manager.
- d. Call the physician immediately.

Answer D. The headache may be an indication that the aneurysm is leaking. The nurse should notify the physician immediately. Sitting with the client is appropriate but only after the physician has been notified of the change in the client's condition. The physician will decide whether or not administration of an analgesic is indicated. Informing the nurse manager isn't necessary.

23. A patient with a spinal cord injury (SCI) complains about a severe throbbing headache that suddenly started a short time ago. Assessment of the patient reveals increased blood pressure (168/94) and decreased heart rate (48/minute), diaphoresis, and flushing of the face and neck. What action should you take first?

- a. Administer the ordered acetaminophen (Tylenol).
- b. Check the Foley tubing for kinks or obstruction.
- c. Adjust the temperature in the patient's room.
- d. Notify the physician about the change in status.

Answer: B – These signs and symptoms are characteristic of autonomic dysreflexia, a neurologic emergency that must be promptly treated to prevent a hypertensive stroke. The cause of this syndrome is noxious stimuli, most often a distended bladder or constipation, so checking for poor catheter drainage, bladder distention, or fecal impaction is the first action that should be taken. Adjusting the room temperature may be helpful, since too cool a temperature in the room may contribute to the problem. Tylenol will not decrease the autonomic dysreflexia that is causing the patient's headache. Notification of the physician may be necessary if nursing actions do not resolve symptoms.

24. A patient with a spinal cord injury at level C3-4 is being cared for in the ED. What is the priority assessment?

- a. Determine the level at which the patient has intact sensation.
- b. Assess the level at which the patient has retained mobility.

- c. Check blood pressure and pulse for signs of spinal shock.
- d. Monitor respiratory effort and oxygen saturation level.

Answer: D – The first priority for the patient with an SCI is assessing respiratory patterns and ensuring an adequate airway. The patient with a high cervical injury is at risk for respiratory compromise because the spinal nerves (C3 – 5) innervate the phrenic nerve, which controls the diaphragm. The other assessments are also necessary, but not as high priority.

25. You are providing care for a patient with an acute hemorrhage stroke. The patient's husband has been reading a lot about strokes and asks why his wife did not receive alteplase. What is your best response?

- a. "Your wife was not admitted within the time frame that alteplase is usually given."
- b. "This drug is used primarily for patients who experience an acute heart attack."
- c. "Alteplase dissolves clots and may cause more bleeding into your wife's brain."
- d. "Your wife had gallbladder surgery just 6 months ago and this prevents the use of alteplase."

Answer: C – Alteplase is a clot buster. With patient who has experienced hemorrhagic stroke, there is already bleeding into the brain. A drug like alteplase can worsen the bleeding. The other statements are also accurate about use of alteplase, but they are not pertinent to this patient's diagnosis.

26. While working in the ICU, you are assigned to care for a patient with a seizure disorder. Which of these nursing actions will you implement first if the patient has a seizure?

- a. Place the patient on a non-rebreather mask with the oxygen at 15 L/minute.
- b. Administer lorazepam (Ativan) 1 mg IV.
- c. Turn the patient to the side and protect airway.
- d. Assess level of consciousness during and immediately after the seizure.

Answer: C – The priority action during a generalized tonic-clonic seizure is to protect the airway. Administration of lorazepam should be the next action, since it will act rapidly to control the seizure. Although oxygen may be useful during the postictal phase, the hypoxemia during tonic-clonic seizures is caused by apnea. Checking the level of consciousness is not appropriate during the seizure, because generalized tonic-clonic seizures are associated with a loss of consciousness.

27. A 70-year-old alcoholic patient with acute lethargy, confusion, and incontinence is admitted to the hospital ED. His wife tells you that he fell down the stairs about a month ago, but "he didn't have a scratch afterwards." She feels that he has become gradually less active and sleepier over the last 10 days or so. Which of the following collaborative interventions will you implement first?

- a. Place on the hospital alcohol withdrawal protocol.
- b. Transfer to radiology for a CT scan.
- c. Insert a retention catheter to straight drainage.
- d. Give phenytoin (Dilantin) 100 mg PO.

Answer: B – The patient's history and assessment data indicate that he may have a chronic subdural hematoma. The priority goal is to obtain a rapid diagnosis and send the patient to surgery to have the hematoma evacuated. The other interventions also should be implemented as soon as possible, but the initial nursing activities should be directed toward treatment of any intracranial lesion.

28. The nurse in the Emergency Room is treating a patient suspected to have a Peptic Ulcer. On assessing lab results, the nurse finds that the patient's blood pressure is 95/60, pulse is 110 beats per minute, and the patient reports epigastric pain. What is the priority intervention?

- A. Start a large-bore IV in the patient's arm
- B. Ask the patient for a stool sample
- C. Prepare to insert an NG Tube
- D. Administer intramuscular morphine sulphate as ordered

A. Start a large-bore IV in the patient's arm

Correct – The nurse should suspect that the patient is haemorrhaging and will need need a fluid replacement therapy, which requires a large bore IV.

Ask the patient for a stool sample

Incorrect – While this is useful in the diagnosis and assessment of Peptic Ulcer Disease, it is not the priority intervention.

Prepare to insert an NG Tube

Incorrect – While this intervention may be used in the later stages of Peptic Ulcer Disease, it is not the first and priority intervention.

Administer intramuscular morphine sulphate as ordered

Incorrect – While this is an important intervention to manage pain, it is not the priority intervention.

29. The optimal measurement of intravascular fluid status during the immediate fluid resuscitation phase of burn treatment is:

- A. BUN
- B. Daily Weight
- C. Urine output
- D. K+

C. During initial fluid resuscitation, urine output helps guide therapy.

A: Although blood urea nitrogen may be used to monitor volume status, it also is affected by the hypermetabolic state seen after burns, so it is not the optimal measure of intravascular fluid status.

B: Daily weight measures overall volume status, not just intravascular volume.

D: Serum potassium is released with tissue damage and thus is not the optimum measure of intravascular fluid status.

30. What is the total amount of fluid (in the first 24 hours) that will need to be administered to a 70-kg man with a burn injury that covers 50% of his body surface area?

- A. 2800 mL
- B. 7000 mL
- C. 14 L
- D. 28 L

C. $4 \times 70 \text{ kg} \times 50 = 14,000 \text{ mL}$ or 14 liters.

31. Which of the following is an essential nursing action for a patient who has circumferential full-thickness burns on an extremity?

- A. Keeping the extremity in a dependent position
- B. Monitoring distal pulses of the extremity

C. Performing an escharotomy as a prophylactic measure

D. Putting on sequential compression stockings

B. Distal pulses on the extremity must be assessed to detect compartment syndrome

A: Keeping the extremity in a dependent position will increase edema and compromise blood flow.

C: Performing an escharotomy is a physician responsibility.

D: Sequential compression devices should not be used in a burned extremity.

Question 9

Type: MCMA

A patient is diagnosed with hyperglycemic hyperosmolar state (HHS). Which interventions would the nurse anticipate?

Note: Credit will be given only if all correct choices and no incorrect choices are selected.

Standard Text: Select all that apply.

1. Potassium supplementation
2. Testing for sources of infection
3. Increasing amount of NPH insulin administered
4. Increasing IV fluid administration
5. Monitoring arterial blood gases

Correct Answer: 1,2,4

Rationale 1: HHS can cause either potassium deficit or excess. Potassium supplementation may be necessary.

Rationale 2: Infection can cause HHS. Identification and management of causative factors is important.

Rationale 3: HHS management requires administration of IV insulin.

Rationale 4: HHS results in dehydration that is managed with IV fluids.

Rationale 5: Monitoring patient's level of consciousness

Global Rationale:

Cognitive Level: Analyzing

Client Need: Physiological Integrity

Client Need Sub: Physiological Adaptation

Nursing/Integrated Concepts: Nursing Process: Planning

Learning Outcome: 31-4

Question 12

Type: MCSA

The nurse has adequately managed a patient's airway, breathing, and circulation. What is the next nursing action?

1. Assess level of consciousness.
2. Administer prophylactic tetanus toxoid as prescribed.
3. Auscultate heart sounds.
4. Assess the chest for paradoxical movements.

Correct Answer: 1

Rationale 1: The nurse should assess the patient's neurological status or level of consciousness as the next step.

Rationale 2: Administering prophylactic tetanus toxoid and transferring the patient should happen after the assessment is complete.

Rationale 3: Auscultation of heart sounds is part of the secondary survey, which is done after the primary survey. The primary survey is not yet complete.

Rationale 4: Assessment for paradoxical movement of the chest is part of the secondary survey, which occurs after the primary survey. The primary survey is not yet completed.

Global Rationale:

Cognitive Level: Applying

Client Need: Physiological Integrity

Client Need Sub: Physiological Adaptation

Nursing/Integrated Concepts: Nursing Process: Assessment

Learning Outcome: 34-5

Question 15

Type: MCMA

The nurse is providing care to a farmworker who was pinned against a steel gate by a horse. Deformation of the patient's pelvis and femurs is obvious, but little blood is present on the patient's clothing. Initial blood pressure is 110/68 mm Hg. What nursing interventions are indicated?

Note: Credit will be given only if all correct choices and no incorrect choices are selected.

Standard Text: Select all that apply.

1. Initiate intravenous access with a 16 gauge catheter.
2. Start fluid resuscitation with normal saline.
3. Prepare to administer vasopressor medication.
4. Turn the patient to assess for injuries to the back.
5. Prepare to insert a chest tube.

Correct Answer: 1,2

Rationale 1: This patient's mechanism of injury and assessment indicates potential for femur and pelvic fractures, which can result in massive blood loss. The "normal" blood pressure may be related to pain and adrenaline release. Venous access with large gauge catheters is essential.

Rationale 2: This patient may be bleeding internally. Fluid resuscitation is indicated.

Rationale 3: Vasopressor medications are not useful until fluid volume is restored.

Rationale 4: This patient should not be moved until further assessment is conducted.

Rationale 5: Nothing in the patient's assessment indicates need for a chest tube at this point. The nurse should continue to assess airway and breathing.

Global Rationale:

Cognitive Level: Analyzing

Client Need: Physiological Integrity

Client Need Sub: Physiological Adaptation

Nursing/Integrated Concepts: Nursing Process: Implementation

Learning Outcome: 34-6

Question 19

Type: MCSA

The nurse is caring for a patient who sustained a lacerated spleen from a motorcycle accident. Which complication is this patient most prone to experience because of the trauma?

1. Acute renal failure
2. Sepsis
3. Deep vein thrombosis
4. ARDS

Correct Answer: 1

Rationale 1: Abdominal trauma, specifically a lacerated spleen, makes the patient prone to developing the complication of acute renal failure, abdominal compartment syndrome, or disseminating intravascular coagulation.

Rationale 2: Sepsis is associated with an open pneumothorax and perforated intestine.

Rationale 3: Deep vein thrombosis is not associated with any particular organ system and can occur at any time with any health problem that restricts mobility or increases blood coagulation.

Rationale 4: ARDS is seen more often with thoracic traumatic injuries.

Global Rationale:

Cognitive Level: Analyzing

Client Need: Physiological Integrity

Client Need Sub: Physiological Adaptation

Nursing/Integrated Concepts: Nursing Process: Assessment

Learning Outcome: 34-7

Question 20

Type: MCSA

A patient is in the intensive care unit with a pulmonary contusion sustained from a motor vehicle accident. Which post-traumatic complication should the nurse focus on when providing care to this patient?

1. Abdominal compartment syndrome
2. Sepsis
3. ARDS
4. Acute renal failure

Correct Answer: 3

Rationale 1: Abdominal compartment syndrome is more common in patients with abdominal trauma.

Rationale 2: Sepsis is more common in patients with abdominal trauma or open wounds.

Rationale 3: The patient with a thoracic injury is prone to developing the post-traumatic complications of ARDS and DIC.

Rationale 4: Acute renal failure can occur with any massive trauma that involves blood loss, but is more common if injuries to the abdomen exist.

Global Rationale:

Cognitive Level: Analyzing

Client Need: Physiological Integrity

Client Need Sub: Physiological Adaptation

Nursing/Integrated Concepts: Nursing Process: Planning

Learning Outcome: 34-8

Question 2

Type: MCSA

A patient recovering from a frontal craniotomy is positioned with the head of the bed elevated 45 degrees at all times. What rationale would the nurse provide for this position?

1. The brain will compress the cerebral veins less in this position.
2. The ventricles of the brain will drain better in this position.
3. This position allows for less pain for the patient.
4. The cerebral spinal veins are valveless and drain by gravity.

Correct Answer: 4

Rationale 1: This statement is not physiologically correct.

Rationale 2: This statement is not physiologically correct.

Rationale 3: There is no reason that pain would be reduced in this position.

Rationale 4: The cerebral spinal veins drain best via gravity, an important characteristic to remember when caring for patients with the risk for increased intracranial pressure as would be present in intracranial surgeries.

Global Rationale:

Cognitive Level: Applying

Client Need: Physiological Integrity

Client Need Sub: Physiological Adaptation

Nursing/Integrated Concepts: Nursing Process: Implementation

Learning Outcome: 15-1

Question 3

Type: MCSA

The nurse is providing care for a patient who sustained a severe head injury. The nurse would intervene to prevent which occurrence that increases cerebral blood flow?

1. Oversedation
2. Hypothermia
3. Fever
4. Paralysis

Correct Answer: 3

Rationale 1: Sedation will decrease cerebral blood flow.

Rationale 2: Hypothermia will decrease cerebral blood flow.

Rationale 3: Fever increases the body's metabolic rate and will increase cerebral blood flow.

Rationale 4: Paralysis, often initiated chemically, will decrease cerebral blood flow.

Global Rationale:

Cognitive Level: Applying

Client Need: Physiological Integrity

Client Need Sub: Physiological Adaptation

Nursing/Integrated Concepts: Nursing Process: Planning

Learning Outcome: 15-1

Question 4

Type: MCSA

The nurse is providing care for a patient who is at risk for developing an increase in intracranial pressure due to swelling of the brain. The nurse is aware that this increased brain size must be accompanied by which other change if intracranial pressure is to remain stable?

1. There will be an increase in the blood flow to the brain.
2. There is a decrease in the blood-brain barrier.
3. There must be a decrease in another of the intracranial compartments.
4. There will be an increase in the production of cerebrospinal fluid.

Correct Answer: 3

Rationale 1: Blood flow to the brain would decrease as more space is taken up by the brain.

Rationale 2: The blood–brain barrier does not increase or decrease in response to changes in the brain.

Rationale 3: The contents of the intracranial vault include the brain, cerebral blood volume, and cerebrospinal fluid. The Monro–Kellie hypothesis states that as the content of one of the intracranial compartments increases, it is at the expense of the other two. The correct answer is that if there is an increase in the volume of brain tissue, there will need to be a decrease in another of the intracranial compartments.

Rationale 4: An increased amount of cerebrospinal fluid would increase the pressure in the intracranial vault.

Global Rationale:

Cognitive Level: Analyzing

Client Need: Physiological Integrity

Client Need Sub: Physiological Adaptation

Nursing/Integrated Concepts: Nursing Process: Assessment

Learning Outcome: 15-2

Question 5

Type: MCSA

A nurse is monitoring the intracranial pressure of a patient with a closed-head injury. Which pressure would the nurse evaluate as requiring no additional intervention?

1. 12 mm Hg
2. 22 mm Hg
3. 25 mm Hg
4. 30 mm Hg

Correct Answer: 1

Rationale 1: The normal intracranial pressure ranges from 0 to 15 mm Hg.

Rationale 2: This pressure exceeds normal.

Rationale 3: This pressure exceeds normal.

Rationale 4: This pressure exceeds normal.

Global Rationale:

Cognitive Level: Applying

Client Need: Physiological Integrity

Client Need Sub: Physiological Adaptation

Nursing/Integrated Concepts: Nursing Process: Assessment

Learning Outcome: 15-2

Question 7

Type: MCSA

A patient with a head injury has a mean arterial pressure of 70 mm Hg and an intracranial pressure of 20 mm Hg. Which cerebral perfusion pressure would the nurse document for this patient?

1. 50 mm Hg
2. 90 mm Hg
3. 70/40 mm Hg
4. 40/70 mm Hg

Correct Answer: 1

Rationale 1: The cerebral perfusion pressure is calculated as the mean arterial pressure minus the intracranial pressure. In this patient the cerebral perfusion pressure would be inadequate and intervention is needed.

Rationale 2: This calculation is incorrect for the values given.

Rationale 3: This calculation is incorrect for the values given.

Rationale 4: This calculation is incorrect for the values given.

Global Rationale:

Cognitive Level: Analyzing

Client Need: Physiological Integrity

Client Need Sub: Physiological Adaptation

Nursing/Integrated Concepts: Nursing Process: Assessment

Learning Outcome: 15-3

Question 8

Type: MCSA

A nurse is monitoring a patient who sustained a head injury. The nurse recognizes which finding as the earliest sign of change in neurologic status?

1. The patient cannot remember where he is.
2. The patient's pupil size is increased.
3. The patient's blood pressure has increased.
4. The patient exhibits decorticate posturing when stimulated.

Correct Answer: 1