

CCRN (Adult) - Direct Care Eligibility Pathway

AACN CCRN-Adult

Version Demo

Total Demo Questions: 17

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Topic Break Down

Topic	No. of Questions
Topic 1, Clinical Judgment	147
Topic 2, Professional Caring and Ethical Practice	23
Total	170

QUESTION NO: 1

A patient post-surgical externalized ventricular drain placement has treatment orders that include continuous cerebrospinal fluid (CSF) drainage at 10 mm

Hg. Which of the following should the nurse anticipate with an increase in the ICP above 25 mm Hg?

- A. a decrease in the pulse pressure
- B. a change in CSF drainage from clear to pink
- C. the amplitude of P2 greater than P1 on the waveform morphology
- D. an increase in the cerebral perfusion pressure from 65 to 70

ANSWER: C

Explanation:

the amplitude of P2 greater than P1 on the waveform morphology is correct because the intracranial pressure waveform provides clinically useful information about intracranial compliance. The normal waveform contains three peaks: the percussion wave (P1), which reflects arterial pulsation; the tidal wave (P2), which reflects brain compliance; and the dicrotic wave (P3). With adequate compliance, P1 is normally the tallest peak. As intracranial compliance declines, the brain has less capacity to accommodate additional volume within the fixed cranial vault. P2 rises and becomes higher than P1, producing a rounded waveform appearance. This change can occur as intracranial pressure rises and is an important bedside indicator that compensatory reserve is becoming exhausted. In a patient with an external ventricular drain, waveform assessment should be interpreted along with the measured pressure, neurological examination, drain patency and leveling, prescribed drainage parameters, and the overall clinical trend. Sustained elevation of intracranial pressure requires prompt recognition and escalation according to the patient's treatment plan. Additional discussion of ICP waveform components and monitoring is available from [StatPearls: Intracranial Pressure Monitoring](#) and the [AACN neurological clinical resources](#).

QUESTION NO: 2

A patient receiving unfractionated heparin for deep vein thrombosis has a platelet count decrease from 248,000/mm³ to 102,000/mm³ on day 6 of therapy. The patient now reports new pain and swelling in the opposite calf. Which of the following actions should the nurse anticipate?

- A. Administer a platelet transfusion.
- B. Continue the heparin infusion at a lower rate.
- C. Discontinue heparin and anticipate a non-heparin anticoagulant.
- D. Replace unfractionated heparin with low-molecular-weight heparin.

ANSWER: C

Explanation:

This pattern is concerning for heparin-induced thrombocytopenia (HIT), an immune-mediated disorder that causes platelet activation and a high risk for new thrombosis despite thrombocytopenia. All heparin products should be discontinued, and a non-heparin anticoagulant such as argatroban is commonly initiated while diagnostic testing proceeds. Platelet transfusion is not routinely indicated because HIT is primarily thrombotic. Continuing heparin or changing only the infusion rate would expose the patient to continued immune-mediated platelet activation.

QUESTION NO: 3

Treatment of cerebral vasospasm includes administration of

- A. lorazepam (Ativan).
- B. propranolol (Inderal).
- C. nimodipine (Nimotop).
- D. pentobarbital (Nembutal).

ANSWER: C

Explanation:

Nimodipine (Nimotop) is correct because it is a dihydropyridine calcium-channel blocker routinely administered after aneurysmal subarachnoid hemorrhage to reduce the risk of delayed cerebral ischemia and improve neurologic outcomes. Cerebral vasospasm is a major cause of secondary brain injury after subarachnoid hemorrhage, typically occurring several days after the hemorrhage. Nimodipine is specifically recommended as early enteral therapy for these patients, generally continued for 21 days when clinically appropriate. Although its precise benefit may not result solely from angiographic reversal of large-vessel arterial narrowing, nimodipine has demonstrated outcome benefit in this population and remains a cornerstone of neurocritical-care management. The medication should be given orally or through an enteral feeding tube; the capsule contents may be withdrawn for enteral administration when necessary, but nimodipine must never be administered intravenously because this can cause severe hypotension and potentially fatal harm. Hemodynamic monitoring is important, since hypotension can reduce cerebral perfusion. The American Heart Association/American Stroke Association guideline recommends early enteral nimodipine in aneurysmal subarachnoid hemorrhage, and the FDA prescribing information identifies its indication as improving neurologic outcome by reducing ischemic deficits in patients with subarachnoid hemorrhage. See the [AHA/ASA guideline for aneurysmal subarachnoid hemorrhage](#) and [FDA Nimotop prescribing information](#).

QUESTION NO: 4

The dysrhythmia most commonly associated with mitral stenosis is

- A. second-degree AV heart block, Mobitz Type II.
- B. idioventricular rhythm.
- C. sinus bradycardia.
- D. atrial fibrillation.

ANSWER: D

Explanation:

Atrial fibrillation is the dysrhythmia most commonly associated with mitral stenosis. Obstruction of blood flow across the narrowed mitral valve chronically elevates left atrial pressure. Over time, this pressure overload causes left atrial enlargement and structural/electrical remodeling, creating a substrate that predisposes the atria to fibrillation. The loss of coordinated atrial contraction is especially important in mitral stenosis because the atrial “kick” contributes to left ventricular filling across an already obstructed valve. When atrial fibrillation develops, ventricular filling may decline and symptoms such as dyspnea, fatigue, pulmonary congestion, or reduced cardiac output can worsen—particularly with a rapid ventricular response. In addition, ineffective atrial contraction promotes blood stasis, especially in the left atrial appendage, increasing the risk for left atrial thrombus and systemic embolic events. Clinical assessment therefore includes rhythm and rate evaluation, symptom assessment, echocardiographic assessment of valve severity and left atrial size, and consideration of anticoagulation according to the patient’s thromboembolic risk and valve-disease context. The American Heart Association identifies atrial fibrillation as a common complication of mitral stenosis, and current valvular-heart-disease guidance addresses anticoagulation in patients with rheumatic mitral stenosis and atrial fibrillation. See the [American Heart Association overview of mitral valve stenosis](#) and the [ACC/AHA valvular heart disease guideline](#).

QUESTION NO: 5

The first priority in management of an acute GI hemorrhage is

- A. monitoring of serial Hgb and Hct.
- B. fluid resuscitation.
- C. pain relief.
- D. Sengstaken-Blakemore tube insertion.

ANSWER: B

Explanation:

Fluid resuscitation is the first priority because acute gastrointestinal hemorrhage can rapidly reduce circulating intravascular volume, causing hypotension, impaired oxygen delivery, shock, and end-organ hypoperfusion. Initial management therefore centers on immediate assessment and stabilization of circulation, including prompt vascular access and administration of appropriate intravenous fluids; blood-product support is added when clinically indicated by the severity of bleeding, hemodynamics, and laboratory findings. Restoring effective perfusion is necessary before definitive diagnostic and therapeutic interventions, such as endoscopy, can be safely pursued. In critically ill patients, resuscitation is dynamic: the clinician repeatedly evaluates blood pressure, heart rate, mental status, urine output, peripheral perfusion, and response to therapy, while preparing for further hemorrhage control. The American College of Gastroenterology guideline for upper gastrointestinal and ulcer bleeding specifically addresses resuscitation as part of the early approach to hospitalized patients with acute bleeding. This priority also follows the core critical-care principle of treating immediately life-threatening circulatory compromise first. See the [American College of Gastroenterology Clinical Guideline: Upper Gastrointestinal and Ulcer Bleeding](#) and the [NCBI Bookshelf review of gastrointestinal bleeding](#).

QUESTION NO: 6

An unconscious patient in hepatic failure secondary to alcoholism becomes acutely hypoglycemic. Glucagon administration is contraindicated for this patient because glucagon

- A. interferes with lactulose (Cephulac) therapy.
- B. produces additional sedative effects.
- C. is ineffective when hepatocytes are damaged.
- D. causes rebound hyperglycemia.

ANSWER: C

Explanation:

is ineffective when hepatocytes are damaged. Glucagon normally raises serum glucose principally by acting on hepatic glucagon receptors to stimulate glycogenolysis, releasing glucose from liver glycogen stores. It also supports hepatic glucose production through gluconeogenesis. In severe hepatic failure related to alcoholism, hepatocyte function is markedly impaired, and hepatic glycogen reserves may be depleted because of poor nutritional intake and disrupted glycogen storage. Consequently, the liver may be unable to respond adequately to glucagon or generate and release sufficient glucose. The expected rapid increase in blood glucose therefore may not occur, making glucagon an unreliable treatment for acute hypoglycemia in this setting. An unconscious patient requires prompt correction with an immediately available glucose source, generally intravenous dextrose when IV access is available, along with monitoring and treatment of the underlying hepatic and nutritional abnormalities. The prescribing information for glucagon notes that it may be ineffective in patients with decreased hepatic glycogen stores, including those with chronic hypoglycemia or starvation, which is clinically relevant to severe alcohol-associated liver disease. See the [DailyMed glucagon prescribing information](#) and the [Merck Manual overview of hypoglycemia](#).

QUESTION NO: 7

A patient who experienced a blunt chest trauma in an automobile crash is admitted with multiple rib fractures. The patient is dyspneic and hypotensive and is reporting left shoulder pain. On auscultation, a nurse notes that bowel sounds can be heard over the lower left thorax. These findings are consistent with

- A. ruptured abdominal viscus.
- B. ruptured diaphragm.
- C. flail chest.
- D. mediastinal shift.

ANSWER: B

Explanation:

ruptured diaphragm. is the correct diagnosis. Blunt thoracoabdominal trauma, especially from a motor-vehicle collision, can create an abrupt rise in intra-abdominal pressure that tears the diaphragm. The left hemidiaphragm is particularly vulnerable because the liver provides some protection on the right. Once the diaphragm is disrupted, abdominal structures—most commonly the stomach, colon, or small bowel—can migrate into the thoracic cavity. Hearing bowel sounds over the lower left chest is therefore a highly suggestive bedside finding of traumatic diaphragmatic rupture with herniation of abdominal contents.

Herniation into the chest reduces available space for lung expansion, explaining the patient's dyspnea. It may also compromise venous return or reflect associated traumatic injury, contributing to hypotension. Referred pain to the left shoulder is consistent with diaphragmatic irritation transmitted through the phrenic nerve. This injury can be difficult to identify initially in patients with multiple traumatic injuries, so the combination of high-energy blunt trauma, respiratory symptoms, shoulder pain, and thoracic bowel sounds should prompt urgent imaging and trauma-surgical evaluation. Chest radiography may show an elevated hemidiaphragm or intrathoracic abdominal viscera; computed tomography is commonly used to further define the injury. See the [NCBI Bookshelf review of diaphragm rupture](#) and the [Merck Manual discussion of diaphragmatic injury](#).

QUESTION NO: 8

A patient has gained 8 kg in the past week. Serum sodium is 115 mEq/L, CVP is 20 mm Hg, and serum osmolality is decreased. The patient has just experienced a generalized tonic-clonic seizure. In this situation, which of the following IV solutions should a nurse be prepared to administer?

- A. 3% sodium chloride
- B. 0.45% sodium chloride
- C. 0.9% sodium chloride
- D. 5% dextrose with 0.25% sodium chloride

ANSWER: A

Explanation:

3% sodium chloride is appropriate because this presentation is severe symptomatic hypotonic hyponatremia. The markedly low serum sodium and decreased serum osmolality establish hypotonicity, while the rapid weight gain and elevated CVP indicate substantial total-body water excess. Most importantly, a generalized tonic-clonic seizure is a life-threatening neurologic manifestation of hyponatremic encephalopathy, in which water shifts into brain cells and causes cerebral edema. Hypertonic 3% sodium chloride raises the effective extracellular sodium concentration, promoting movement of water out of swollen cerebral cells and reducing the immediate risk of further seizures, brain herniation, and respiratory compromise. In patients with severe symptoms, guidelines support prompt, carefully controlled hypertonic saline administration, commonly as intermittent boluses, to achieve an initial small increase in serum sodium sufficient to improve dangerous neurologic symptoms. The nurse should anticipate frequent neurologic assessments, strict intake and output measurement, and serial serum sodium monitoring during therapy. Correction must be controlled because overly rapid sodium correction can cause osmotic demyelination syndrome. The patient's volume overload also requires ongoing management of the underlying cause and may necessitate additional therapies after immediate neurologic stabilization. See the [American Family Physician review of sodium disorders](#) and the [European Clinical Practice Guideline on hyponatraemia](#).

QUESTION NO: 9

A patient develops sudden severe dyspnea and pulmonary edema 4 days after an inferior myocardial infarction. A new loud holosystolic murmur is heard best at the apex and radiates toward the axilla. Which of the following complications should the nurse suspect?

- A. Free-wall rupture
- B. Papillary muscle rupture
- C. Ventricular aneurysm
- D. Ventricular septal rupture

ANSWER: B

Explanation:

Papillary muscle rupture causes acute severe mitral regurgitation and is a mechanical complication that may occur several days after myocardial infarction. Acute backward flow into the left atrium causes abrupt pulmonary edema, hypotension, and an apical holosystolic murmur radiating to the axilla. Ventricular septal rupture more commonly produces a new harsh murmur at the left sternal border. Free-wall rupture often causes tamponade and pulseless electrical activity rather than a mitral-regurgitation murmur.

QUESTION NO: 10

To maintain adequate pain control in a post-surgical patient addicted to heroin, a nurse should plan to

- A. administer oral opioids only as needed.
- B. administer PCA opioids with on-demand dosing only.
- C. administer PCA with continuous and on-demand opioid delivery.
- D. avoid administering any intravenous pain medication.

ANSWER: C

Explanation:

“Administer PCA with continuous and on-demand opioid delivery.” is correct because a patient who uses heroin regularly is opioid tolerant and commonly has both a baseline opioid requirement and substantial acute postoperative pain. Effective analgesia requires treating the surgical pain while also preventing withdrawal caused by interruption of the patient’s usual opioid exposure. Patient-controlled analgesia with a continuous infusion supplies a consistent baseline opioid effect, and the patient-activated dose allows timely treatment of episodic or movement-related postoperative pain. This approach should be implemented with individualized dosing, frequent reassessment of pain, sedation level, respiratory status, oxygenation, and other clinical factors, with adjustment as the patient’s condition and analgesic needs change. Opioid tolerance does not eliminate the need for careful monitoring; rather, it supports a plan that recognizes higher opioid requirements may be needed to achieve adequate analgesia. A multimodal pain-management plan, including nonopioid analgesics and regional techniques when appropriate, can further reduce opioid requirements while preserving patient comfort and function. Guidance on management of opioid use disorder and acute pain supports continuing or providing sufficient opioid therapy in monitored settings rather than allowing withdrawal or undertreated pain. See the [American Society of Addiction Medicine National Practice Guideline](#) and the [Society of Hospital Medicine consensus statement on acute noncancer pain](#).

QUESTION NO: 11

Family members have been complaining about limited visiting hours. To facilitate a potential change in practice, a nurse should first

- A. schedule an interdisciplinary team meeting to discuss visiting hours.

- B. begin a literature search on family visitation practices.
- C. consult with medical staff to change visiting hours.
- D. draft a new policy regarding visitation practices for the unit.

ANSWER: B

Explanation:

begin a literature search on family visitation practices. is the appropriate first step because practice change should be grounded in the best available evidence rather than solely in individual preferences or local custom. A focused search can identify current research and professional guidance on flexible or family-centered visitation in adult critical care, including effects on patient and family outcomes, safety considerations, staff workflow, and implementation approaches. The nurse can use these findings to clarify the clinical problem, assess whether a practice gap exists, and develop an evidence-informed rationale for considering a revision to the unit's visitation practice. This approach supports professional accountability and helps ensure that any subsequent discussion or policy development is based on credible data, patient- and family-centered care principles, and the needs of the specific ICU population. AACN's practice guidance emphasizes the importance of family engagement and inclusion in critical care, while also recognizing that implementation requires an organized, evidence-based process. See AACN's [Family Presence, Visitation and Participation in the Adult ICU](#) practice alert and the [associated AACN educational resource](#).

QUESTION NO: 12

A patient in septic shock is treated with a dopamine (Intropin) infusion of 10 mcg/kg/min. Which of the following indicates that this intervention has been effective?

- A. decreased systemic vascular resistance and decreased MAP
- B. increased systemic vascular resistance and decreased MAP
- C. decreased systemic vascular resistance and increased MAP
- D. increased systemic vascular resistance and increased MAP

ANSWER: D

Explanation:

"increased systemic vascular resistance and increased MAP" indicates an effective desired hemodynamic response to dopamine at this infusion rate in a patient with septic shock. Dopamine has dose-dependent adrenergic effects. At approximately 10 mcg/kg/min, beta-adrenergic cardiac stimulation may support cardiac output while alpha-adrenergic vasoconstrictive effects become clinically important. Alpha-mediated constriction of the peripheral vasculature raises systemic vascular resistance. Because mean arterial pressure is determined largely by cardiac output and systemic vascular resistance, this increase in vascular tone can raise MAP and improve the pressure available to perfuse vital organs. In distributive shock, where pathologic vasodilation causes hypotension, a rising MAP together with increased SVR is therefore a meaningful indication that vasopressor therapy is achieving its immediate circulatory goal. Current sepsis guidance generally identifies norepinephrine as the preferred initial vasopressor, but dopamine remains a catecholamine with dose-related inotropic and vasopressor activity and may be used in selected circumstances. See the FDA prescribing information for [dopamine hydrochloride](#) and the [Surviving Sepsis Campaign adult guidelines](#).

QUESTION NO: 13

A patient with acute renal failure has a serum potassium level of 7.2 mEq/L. The most appropriate immediate intervention for this patient is

- A. 3% NS infusion.
- B. Kayexalate in sorbitol.

C. hemodialysis.

D. 50% dextrose and insulin.

ANSWER: D

Explanation:

50% dextrose and insulin is the appropriate immediate intervention because a potassium concentration of 7.2 mEq/L represents severe hyperkalemia with substantial risk for rapidly developing conduction abnormalities and malignant dysrhythmias. Intravenous regular insulin activates cellular sodium-potassium ATPase activity, producing a prompt shift of potassium from the extracellular space into skeletal muscle and other cells. Dextrose is administered with insulin to reduce the risk of treatment-induced hypoglycemia. This combination generally begins lowering measured serum potassium within about 15 to 30 minutes, making it a key temporizing therapy when a rapid reduction in extracellular potassium is needed. Glucose should be checked before treatment and monitored afterward, particularly in acute kidney injury because insulin clearance may be prolonged and delayed hypoglycemia can occur. The treatment does not remove potassium from the body; rather, it quickly reduces the immediate serum potassium burden while definitive potassium elimination and ongoing management are arranged. Guidance for acute hyperkalemia identifies intravenous insulin with glucose as an effective emergency potassium-shifting treatment. See the [UK Kidney Association Hyperkalaemia Guideline](#) and the [KDIGO acute hyperkalemia conference report](#).

QUESTION NO: 14

A patient presents with fever and chills, is diaphoretic, and reports experiencing abdominal and intermittent left shoulder pain for the past week. An

ultrasound shows an enlarged spleen. Vital signs are:

BP 106/59

HR 118

RR 23

T101.2° F (38.4° C)

When reviewing the lab report, which of the following findings is most significant to this presentation?

A. positive blood cultures

B. PLT 150,000/mm³

C. WBC less than 500/mm³

D. Hct 39%

ANSWER: A

Explanation:

Positive blood cultures are the most significant finding because this patient's fever, chills, diaphoresis, tachycardia, abdominal pain, referred left shoulder pain, and splenomegaly strongly suggest an infectious splenic process, particularly a splenic abscess. Left shoulder discomfort may occur from diaphragmatic irritation associated with splenic inflammation. A positive blood culture provides direct evidence of bloodstream infection, supports hematogenous seeding of the spleen, and raises concern for sepsis in the setting of abnormal vital signs. Blood cultures are clinically important because the isolated organism and susceptibility results guide targeted antimicrobial therapy; management of splenic abscess often requires both antimicrobial treatment and source control, such as image-guided drainage or splenectomy when indicated. Cultures should be obtained promptly, ideally before antimicrobials when doing so does not delay treatment of a patient with suspected sepsis. Further diagnostic evaluation commonly includes contrast-enhanced CT to characterize splenic lesions and help plan source control. See the [Merck Manual Professional discussion of splenic abscess](#) and the [Surviving Sepsis Campaign guidelines](#).

QUESTION NO: 15

Four hours after coronary artery bypass graft surgery, a patient develops BP 78/44 mm Hg, HR 122, and a rise in CVP from 8 to 18 mm Hg. Mediastinal drainage has abruptly decreased from 100 mL/hr to no drainage. The chest tubes are patent without dependent loops or visible clots. Which of the following should the nurse anticipate?

- A. Administration of a loop diuretic.
- B. Preparation for urgent surgical evaluation of cardiac tamponade.
- C. Removal of the mediastinal chest tubes.
- D. Initiation of fluid restriction.

ANSWER: B

Explanation:

Preparation for urgent evaluation and treatment of cardiac tamponade is appropriate. Hypotension, tachycardia, an increasing CVP, and abrupt cessation of previously active mediastinal drainage after cardiac surgery suggest accumulation of blood in the pericardial space. The finding that the drainage system is patent makes simple tube obstruction less likely. Tamponade impairs ventricular filling and can rapidly progress to cardiovascular collapse, requiring immediate surgeon notification and possible return to the operating room. Additional fluid may transiently support preload but does not correct the obstructive process.

QUESTION NO: 16

Which of the following are physiologic effects of pulmonary contusion?

- A. increased dead space and decreased airway resistance
- B. increased gas diffusion and decreased lung compliance
- C. increased airway resistance and decreased gas diffusion
- D. increased lung compliance and decreased dead space

ANSWER: C

Explanation:

increased airway resistance and decreased gas diffusion is correct. Pulmonary contusion is blunt traumatic injury to lung parenchyma that produces alveolar hemorrhage, interstitial edema, inflammation, and loss of normal alveolar-capillary membrane function. Fluid and blood within and around alveoli increase resistance to airflow through affected lung regions, while edema and alveolar flooding impair diffusion of oxygen across the alveolar-capillary interface. These changes can progress during the first 24 to 48 hours after injury as edema evolves. Clinically, the resulting impaired gas exchange commonly causes hypoxemia, increased work of breathing, and ventilation-perfusion mismatch. In critically ill patients, assessment should focus on oxygenation, respiratory effort, serial chest imaging when indicated, and recognition of associated thoracic injuries. Management is generally supportive and includes adequate analgesia, pulmonary hygiene, appropriate oxygen or ventilatory support, and avoidance of unnecessary fluid overload. The pathophysiology and expected respiratory consequences of pulmonary contusion are summarized in [StatPearls: Pulmonary Contusion](#) and the [Merck Manual Professional discussion of pulmonary contusion](#).

QUESTION NO: 17

A patient admitted with a diagnosis of pneumonia has a temperature of 103.2° F (39.5° C) and copious pulmonary secretions. ABG results drawn on room air are:

The nurse should expect that hemoglobin's affinity for oxygen in this patient to be

- A. unchanged.
- B. unpredictable.
- C. increased.
- D. decreased.

ANSWER: D

Explanation:

decreased. Elevated body temperature causes a rightward shift of the oxyhemoglobin dissociation curve, which decreases hemoglobin's affinity for oxygen. At any given arterial oxygen tension, hemoglobin is therefore more willing to release bound oxygen to the tissues. This physiologic response is particularly relevant in a patient with pneumonia and fever because increased metabolic activity during fever raises tissue oxygen demand. Reduced affinity supports oxygen unloading in peripheral tissues where oxygen consumption is increased.

The core relationship is that higher temperature favors the deoxygenated form of hemoglobin and facilitates oxygen dissociation. Although pneumonia can impair pulmonary gas exchange through secretion burden, inflammation, and ventilation-perfusion mismatch, the stated high temperature alone provides the key cue for the expected change in the hemoglobin-oxygen relationship. Clinically, the right shift means a pulse oximetry or arterial saturation value must be interpreted along with the patient's work of breathing, oxygenation status, perfusion, and evidence of tissue oxygen delivery rather than in isolation.

For further review of factors that shift the oxyhemoglobin dissociation curve, see [StatPearls: Oxygen Transport](#) and [Merck Manual: Oxygen Desaturation](#).