

COMPREHENSIVE MOCK EXAM 5

Supplemental to: Neurocritical Care Board Review 2026-2027

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ABPN Neurocritical Care Certification Examination — 270 one-best-answer questions; domain-weighted per the current ABPN content blueprint. This mock uses A-E options per the parent-book format.

Board-Review Questions

1. A patient with severe brain injury has an ICP tracing in which P2 is consistently higher than P1. What does this waveform most strongly indicate?

- A. Reduced intracranial compliance
- B. Artifact from ventricular drainage
- C. Cerebral vasospasm
- D. Low cerebral perfusion pressure by definition
- E. Preserved intracranial compliance

2. A comatose adult remains unresponsive after resuscitation from cardiac arrest and temperature management. Sedatives have recently been discontinued. Which prognostication approach is most appropriate?

- A. Use a single biomarker as the sole determinant
- B. Assume persistent coma at 24 hours proves a poor outcome
- C. Base prognosis on the admission motor response alone
- D. Withdraw support immediately for any absent corneal reflex in the first hours
- E. Delayed multimodal prognostication after confounder clearance

3. A patient presents with sudden headache and a new focal deficit. Noncontrast head CT shows a sharply hyperattenuating intraparenchymal collection. What does this CT appearance most strongly suggest?

- A. Chronic encephalomalacia
- B. Acute intracranial blood
- C. Cytotoxic edema without hemorrhage
- D. Demyelination
- E. Old lacunar infarction

4. A patient has a mean arterial pressure of 88 mm Hg and an ICP of 18 mm Hg. What is the cerebral perfusion pressure?

- A. 70 mm Hg
- B. 88 mm Hg
- C. 52 mm Hg
- D. 106 mm Hg
- E. 18 mm Hg

5. A comatose patient has symmetric examination findings, no focal lesion on initial imaging, severe renal failure, and multiple sedating medications. What should be prioritized?

- A. Perform decompressive craniectomy
- B. Correct toxic-metabolic and medication causes
- C. Treat cerebral vasospasm empirically
- D. Assume a hemispheric stroke despite no focal features
- E. Diagnose brain death immediately

6. A chronically hypertensive patient develops neurologic worsening when blood pressure is rapidly lowered to a level that would be normal for many adults. Which physiologic principle best explains this?

- A. Venous pressure alone determines cerebral blood flow
- B. Cerebral blood flow becomes pressure independent at all pressures
- C. Chronic hypertension abolishes cerebral vascular resistance
- D. Autoregulation is governed only by serum sodium
- E. The cerebral autoregulatory curve may be shifted to the right

7. After cranial surgery, a patient becomes acutely obtunded. CT shows a large intracranial air collection causing frontal-lobe separation and mass effect. What is the most appropriate interpretation?

- A. Acute ischemic stroke without relation to surgery

- B. Myasthenic crisis**
- C. Expected benign postoperative air regardless of mass effect**
- D. Tension pneumocephalus with mass effect**
- E. Central diabetes insipidus**

8. Cerebral blood flow falls modestly while cerebral metabolic demand is unchanged. Which compensatory response is expected first?

- A. An immediate fall in oxygen extraction fraction**
- B. A rise in CSF production**
- C. Loss of all autoregulatory vasodilation**
- D. Complete cessation of aerobic metabolism**
- E. An increase in cerebral oxygen extraction fraction**

9. A patient with severe hypertension and renal failure develops headache, seizures, visual symptoms, and posterior-predominant vasogenic edema on MRI. Which diagnosis is most likely?

- A. Posterior reversible encephalopathy syndrome**
- B. Acute posterior-circulation ischemic stroke**
- C. Viral meningoencephalitis**
- D. Hypertensive intracerebral hemorrhage**
- E. Cerebral venous sinus thrombosis**

10. A patient develops impaired CSF resorption after subarachnoid hemorrhage. Where is CSF normally absorbed into the venous system?

- A. Ependymal lining**
- B. Cerebral aqueduct**
- C. Basal ganglia**
- D. Choroid plexus**

E. Arachnoid granulations

11. A patient has a persistent focal deficit but an initially nondiagnostic CT. MRI shows a bright lesion on diffusion-weighted imaging in the symptomatic vascular territory. Which process is most likely?

- A. Normal aging only
- B. Chronic volume loss
- C. Remote calcification
- D. Simple CSF accumulation
- E. Acute restricted diffusion

12. A patient with a large hemispheric mass develops a newly dilated nonreactive pupil, decreasing consciousness, and contralateral weakness. What is the immediate priority?

- A. Immediate herniation therapy plus definitive treatment
- B. Give hypotonic fluid
- C. Wait for spontaneous recovery without intervention
- D. Induce severe hypercapnia
- E. Lower blood pressure to profound hypotension

13. A patient with impending transtentorial herniation requires a temporary measure while definitive therapy is arranged. What is the principal acute ICP effect of brief controlled hyperventilation?

- A. Hypocapnia increases CSF production
- B. It increases cerebral metabolic rate
- C. It directly removes interstitial sodium
- D. Hypercapnia causes cerebral vasoconstriction
- E. Hypocapnic cerebral vasoconstriction

14. A patient with a devastating brain injury has uncertain long-term function. The family asks what treatment should continue. What is the best communication approach?

- A.** Present only the worst possible outcome as certain
- B.** Avoid discussing prognosis until discharge
- C.** Recommend the clinician's personal preference without discussing values
- D.** Shared decision-making based on the patient's values
- E.** Ask the family to decide without medical guidance

15. A patient with intracranial hypertension is hypotensive and has worsening acute kidney injury. Which feature makes mannitol less attractive than hypertonic saline?

- A.** It is contraindicated in all traumatic brain injury
- B.** It cannot lower intracranial pressure
- C.** It invariably causes severe hypernatremia
- D.** It causes cerebral vasodilation
- E.** Its osmotic diuresis can aggravate hypovolemia and renal stress

16. A patient presents within 3 hours of disabling acute ischemic stroke, has no contraindication to intravenous thrombolysis, and CTA shows a proximal large-vessel occlusion. What reperfusion strategy is most appropriate?

- A.** Wait 24 hours before vascular imaging
- B.** IV thrombolysis plus rapid thrombectomy evaluation
- C.** Withhold all reperfusion because thrombectomy may be performed
- D.** Delay thrombolysis until after an unsuccessful thrombectomy
- E.** Use aspirin alone as definitive reperfusion therapy

17. A patient with cerebral edema, serum sodium 128 mEq/L, and borderline arterial pressure requires osmotherapy. Which agent is particularly attractive?

- A.** Acetazolamide as an ICP bolus
- B.** Dextrose 5% in water
- C.** Hypertonic saline
- D.** Hypotonic crystalloid
- E.** Free water

18. An MRI lesion is bright on DWI. The team wants to distinguish true restricted diffusion from T2 shine-through. Which accompanying finding supports true restriction?

- A.** Diffuse skull hyperostosis
- B.** Low signal on the ADC map
- C.** High signal only on T1
- D.** High ADC in the same region
- E.** Normal ventricular size

19. A 48-year-old with a very large middle cerebral artery infarction develops worsening edema and declining consciousness despite medical therapy. Which intervention can be lifesaving in an appropriately selected patient?

- A.** Prophylactic full-dose heparin
- B.** Carotid massage
- C.** Chronic hyperventilation as definitive therapy
- D.** Routine lumbar puncture
- E.** Early decompressive hemicraniectomy

20. A mechanically ventilated patient with refractory intracranial hypertension is receiving a propofol infusion. Which adverse effect is most important during dose escalation?

- A.** Persistent severe hypertension
- B.** Direct stimulation of seizures

- C. Marked increase in cerebral metabolic rate
- D. Hypotension reducing CPP
- E. Hypercalcemia

21. A neuro-ICU patient needs light sedation while serial neurologic examinations remain important. Which sedative characteristic is most useful?

- A. Marked increase in intracranial pressure
- B. Reliable deep burst suppression at routine doses
- C. Potent analgesia as a sole opioid substitute
- D. Complete neuromuscular paralysis
- E. Arousable sedation with relatively limited respiratory depression

22. A patient presents with acute coma, quadriparesis, and CTA-confirmed basilar artery occlusion with imaging showing potentially salvageable tissue. What therapy should be urgently considered?

- A. Lumbar drainage as reperfusion
- B. Elective carotid endarterectomy
- C. Mechanical thrombectomy in an appropriate endovascular candidate
- D. Long-term oral anticoagulation as the immediate reperfusion procedure
- E. Observation only because posterior circulation stroke is untreatable

23. A patient awakens with a disabling focal deficit and the exact onset time is unknown. MRI shows a DWI-positive lesion without corresponding marked FLAIR hyperintensity. What does this mismatch suggest?

- A. The patient cannot have ischemic stroke
- B. Relatively recent infarction
- C. The finding proves intracranial hemorrhage
- D. The lesion is a normal variant

E. The lesion is certainly older than one month

24. A patient with severe neurologic injury and marginal blood pressure requires rapid-sequence intubation. Why is etomidate often considered for induction?

- A. It provides prolonged analgesia
- B. Relative hemodynamic stability during induction
- C. It reverses neuromuscular blockade
- D. It eliminates adrenal suppression concerns
- E. It is a vasopressor

25. A patient has an acute spontaneous intracerebral hemorrhage while taking a factor Xa inhibitor and has severe hypertension. Which early management priorities are most appropriate?

- A. Induce marked hypertension
- B. Give thrombolysis
- C. Use prophylactic hypervolemia
- D. Reverse anticoagulation and control BP
- E. Delay reversal for 24 hours

26. A hypotensive patient with traumatic brain injury requires induction for intubation. Which statement about ketamine is most accurate?

- A. Not contraindicated solely by elevated ICP
- B. It is a neuromuscular blocker
- C. It consistently causes profound hypotension
- D. It must never be used in brain injury
- E. It has no analgesic effect

27. Hours after craniotomy, a patient develops a new focal deficit and declining consciousness. What is the first diagnostic step?

- A.** Lumbar puncture before imaging
- B.** Urgent noncontrast head CT
- C.** Observation without imaging
- D.** Routine outpatient MRI in one month
- E.** Carotid massage

28. Three weeks after a high cervical spinal cord injury, a patient requires urgent reintubation. What is the major concern with succinylcholine?

- A.** Severe hypocalcemia from citrate binding
- B.** Profound hyponatremia
- C.** Immediate adrenal crisis
- D.** Loss of all analgesia
- E.** Denervation-related hyperkalemia

29. A patient with a cerebellar hemorrhage develops worsening consciousness, brainstem compression, and obstructive hydrocephalus. What is the best next step?

- A.** Lumbar puncture to relieve pressure
- B.** Routine outpatient follow-up
- C.** Anticoagulation
- D.** Induce hypercapnia
- E.** Urgent surgical evacuation

30. A patient with status epilepticus receives a long-acting dose of rocuronium for intubation. What neurocritical-care limitation should be anticipated?

- A.** It causes immediate cerebral infarction

- B.** Paralysis can mask ongoing seizures
- C.** It directly terminates cortical seizures
- D.** It reliably lowers serum sodium
- E.** It prevents EEG interpretation

31. MRI is obtained to assess a patient with possible cerebral amyloid angiopathy. Which sequence is most sensitive for hemosiderin-containing microbleeds?

- A.** T1 imaging alone
- B.** SWI or gradient-echo imaging
- C.** MR myelography
- D.** Diffusion tensor tractography alone
- E.** Noncontrast MR angiography only

32. A patient with intraventricular hemorrhage becomes progressively somnolent. CT shows acute obstructive hydrocephalus. What intervention is most appropriate?

- A.** External ventricular drainage
- B.** Routine carotid endarterectomy
- C.** Indefinite observation
- D.** Immediate IV thrombolysis
- E.** Therapeutic lumbar puncture despite obstructive hydrocephalus

33. An obtunded patient has pinpoint pupils, bradypnea, and suspected opioid toxicity. What is the immediate antidotal therapy?

- A.** Fomepizole
- B.** Naloxone
- C.** Flumazenil
- D.** Atropine

E. Protamine

34. An incapacitated patient has a valid advance directive that clearly addresses the current clinical situation. What should guide treatment decisions?

- A. The most aggressive possible treatment regardless of the directive
- B. Hospital bed availability
- C. Follow the applicable advance directive
- D. The treating physician's preference alone
- E. The surrogate's financial interests

35. A patient with chronic benzodiazepine use presents after an unknown mixed overdose. Why is routine flumazenil use risky?

- A. It predictably induces hyperkalemia
- B. It is ineffective at benzodiazepine receptors
- C. Seizures or acute benzodiazepine withdrawal
- D. It always causes cerebral edema
- E. It causes irreversible opioid receptor blockade

36. CTA identifies a ruptured saccular aneurysm in a patient with aneurysmal subarachnoid hemorrhage. What definitive principle is most important early?

- A. Perform repeated lumbar punctures as definitive therapy
- B. Secure the ruptured aneurysm as early as feasible
- C. Induce prophylactic hypervolemia before repair
- D. Start long-term anticoagulation first
- E. Leave the aneurysm untreated until vasospasm resolves

37. A patient with intracerebral hemorrhage needs smooth, rapidly titratable blood-pressure reduction. Which infusion is commonly useful?

- A.** Mannitol
- B.** Midodrine
- C.** Fludrocortisone
- D.** Nicardipine
- E.** Digoxin

38. A patient with an acute disabling hemispheric stroke is being evaluated for endovascular therapy. Which rapid noninvasive study best demonstrates a proximal intracranial large-vessel occlusion?

- A.** Lumbar puncture
- B.** CT angiography
- C.** Routine EEG
- D.** Plain skull radiography
- E.** Carotid auscultation

39. A patient with aneurysmal subarachnoid hemorrhage has had the aneurysm secured. Which medication is routinely used to improve neurologic outcome after aneurysmal SAH?

- A.** Routine high-dose corticosteroids
- B.** Daily thrombolysis
- C.** Acetazolamide for all patients
- D.** Enteral nimodipine
- E.** Long-term mannitol

40. A patient needs an intravenous antihypertensive with a very short context-sensitive duration for minute-to-minute titration. Which agent best fits this goal?

- A.** Lisinopril

- B. Spironolactone**
- C. Clonidine patch**
- D. Hydrochlorothiazide**
- E. Clevidipine**

41. A neurocritical-care patient has distributive septic shock after adequate initial fluid assessment. Which vasopressor is generally first-line?

- A. Dobutamine alone**
- B. Nitroglycerin**
- C. Norepinephrine**
- D. Nicardipine**
- E. Adenosine**

42. On day 7 after aneurysmal SAH, a patient develops a new focal deficit not explained by rebleeding, hydrocephalus, seizure, or metabolic disturbance. Which complication should be strongly suspected?

- A. Spinal shock**
- B. Myxedema coma**
- C. Guillain-Barré syndrome**
- D. Epidural hematoma from trauma**
- E. Delayed cerebral ischemia**

43. A hypotensive patient has a clinically important tachyarrhythmia that makes additional beta-adrenergic stimulation undesirable. Which vasopressor has essentially pure alpha-1 activity?

- A. Isoproterenol**
- B. Dobutamine**
- C. Phenylephrine**
- D. Milrinone**

E. Epinephrine

44. A patient with a large-vessel occlusion presents outside the earliest treatment window. What is the principal purpose of CT perfusion in selected patients?

- A. Quantify neuromuscular junction transmission
- B. Directly record cortical electrical activity
- C. Infarct-core and penumbra estimation
- D. Diagnose bacterial meningitis
- E. Measure CSF protein

45. A patient has headache, seizures, and hemorrhagic venous infarction from cerebral venous sinus thrombosis. What disease-specific treatment is generally indicated despite the hemorrhagic venous infarct?

- A. Routine thrombolysis for every patient
- B. No treatment unless arterial occlusion occurs
- C. Long-term dual antiplatelet therapy as first-line
- D. Therapeutic anticoagulation despite hemorrhagic venous infarction
- E. Avoid all antithrombotic therapy because any hemorrhage is absolute contraindication

46. A patient with vasodilatory shock remains hypotensive despite substantial norepinephrine. What is a common role for vasopressin?

- A. Direct treatment of cerebral edema
- B. Induction of neuromuscular blockade
- C. Adjunct vasopressor therapy
- D. Reversal of benzodiazepines
- E. First-line thrombolysis

47. After surgical clipping of an intracranial aneurysm, a patient awakens with a new dense hemiparesis. Which complication must be urgently excluded?

- A.** Arterial compromise causing cerebral ischemia
- B.** Chronic subdural hematoma
- C.** Guillain-Barré syndrome
- D.** Central diabetes insipidus as the sole cause
- E.** Spinal epidural abscess

48. A patient has adequate arterial pressure but low cardiac output with evidence of end-organ hypoperfusion. Which infusion primarily provides inotropic support?

- A.** Nicardipine
- B.** Vasopressin
- C.** Furosemide
- D.** Phenylephrine
- E.** Dobutamine

49. A patient with severe traumatic brain injury has persistently elevated ICP despite initial measures. At what sustained ICP level is treatment generally recommended in current severe TBI guidance?

- A.** Above 10 mm Hg
- B.** Above 40 mm Hg only
- C.** Above 22 mm Hg
- D.** Above 5 mm Hg
- E.** ICP should never guide therapy

50. A patient with aneurysmal subarachnoid hemorrhage is neurologically stable after aneurysm securement. What volume strategy is preferred?

- A.** Maintain euvolemia with isotonic fluid as needed

- B.** Use hypotonic maintenance fluid
- C.** Maintain deliberate dehydration
- D.** Restrict all isotonic fluid
- E.** Induce routine hypervolemia in all patients

51. A patient has a complex cerebral aneurysm whose detailed vascular anatomy must be defined, with possible treatment during the same procedure. Which test provides the most detailed catheter-based vascular assessment?

- A.** Transcranial Doppler alone
- B.** Routine noncontrast MRI only
- C.** Chest CT
- D.** Electroencephalography
- E.** Digital subtraction angiography

52. After head trauma, a patient briefly loses consciousness, improves, then deteriorates rapidly. CT shows a biconvex extra-axial hematoma. Which diagnosis is most likely?

- A.** Epidural hematoma
- B.** Diffuse subarachnoid hemorrhage only
- C.** Ischemic lacune
- D.** Cerebral abscess
- E.** Chronic subdural hematoma

53. An intubated neuro-ICU patient is expected to remain ventilated for several days. Which practice is part of a ventilator-associated-pneumonia prevention strategy?

- A.** Routine supine positioning
- B.** Scheduled broad-spectrum antibiotics for all patients
- C.** Avoidance of oral care

- D.** Daily replacement of the endotracheal tube
- E.** Head-of-bed elevation when not contraindicated

54. A patient with a do-not-resuscitate order develops treatable bacterial pneumonia. Which statement is most accurate?

- A.** DNR limits CPR, not other indicated treatment
- B.** DNR means stop all medications immediately
- C.** DNR is identical to comfort-measures-only status
- D.** DNR prohibits antibiotics in every case
- E.** DNR requires ICU discharge

55. A ventilated patient with acute respiratory distress syndrome has no contraindication to lung-protective ventilation. How should tidal volume be selected?

- A.** Increase tidal volume until plateau pressure rises
- B.** Use actual body weight with large tidal volumes
- C.** Use a fixed 1 liter tidal volume
- D.** Use body surface area only
- E.** Use a low tidal volume based on predicted body weight

56. An older patient on antithrombotic therapy falls and develops declining consciousness. CT shows a crescent-shaped extra-axial collection with mass effect. Which diagnosis is most likely?

- A.** Acute subdural hematoma
- B.** Epidural hematoma
- C.** PRES
- D.** Cerebral venous thrombosis
- E.** Pituitary apoplexy

57. A mechanically ventilated patient with ARDS has rising airway pressures. Which measurement best reflects alveolar distending pressure during an inspiratory hold?

- A.** End-tidal oxygen concentration
- B.** Mean arterial pressure
- C.** Peak expiratory flow
- D.** Plateau pressure
- E.** Central venous pressure

58. After convulsive status epilepticus is treated, a patient remains comatose without visible motor activity. Which test is most important to detect ongoing nonconvulsive seizures?

- A.** Continuous electroencephalography
- B.** Chest radiography
- C.** Electromyography of one limb
- D.** Carotid ultrasound
- E.** Serum troponin alone

59. A patient remains comatose after high-speed rotational trauma. CT shows relatively little mass lesion, while MRI demonstrates multiple punctate lesions at the gray-white junction and corpus callosum. Which diagnosis is most likely?

- A.** Bacterial ventriculitis
- B.** Isolated epidural hematoma
- C.** Diffuse axonal injury
- D.** Myasthenic crisis
- E.** PRES

60. A patient with brain injury and hypoxemic respiratory failure requires PEEP. Which statement is most accurate?

- A.** PEEP has no cardiopulmonary effects
- B.** PEEP always lowers ICP to zero
- C.** Use PEEP with ICP and hemodynamic monitoring
- D.** PEEP replaces osmotherapy
- E.** Any PEEP is absolutely contraindicated in brain injury

61. A ventilated patient with intracranial hypertension develops marked hypercapnia. Why can this worsen ICP?

- A.** Hypercapnia causes intense cerebral vasoconstriction
- B.** Cerebral vasodilation with increased cerebral blood volume
- C.** It invariably lowers arterial pressure
- D.** It causes osmotic diuresis
- E.** It abruptly stops CSF production

62. A patient with acute cervical spinal cord injury is hypotensive after resuscitation of hemorrhage. Which hemodynamic principle is most important?

- A.** Permit sustained profound hypotension
- B.** Use routine thrombolysis
- C.** Restrict all fluids regardless of perfusion
- D.** Induce marked hypercapnia as definitive therapy
- E.** Avoid hypotension and support spinal cord perfusion

63. A patient suddenly becomes hypotensive and hypoxemic. Bedside echocardiography shows right-ventricular dilation with a small left ventricle. Which shock mechanism is most likely?

- A.** Primary left-to-right shunt
- B.** Neurogenic shock
- C.** Massive pulmonary embolism

- D.** Pure distributive shock
- E.** Isolated hypovolemia without obstruction

64. A patient with refractory status epilepticus is receiving an intravenous anesthetic infusion. Why is continuous EEG particularly important?

- A.** EEG-guided electrographic seizure suppression
- B.** It measures cerebral blood flow quantitatively in all regions
- C.** It directly measures intracranial pressure
- D.** It determines glomerular filtration rate
- E.** It replaces all antiseizure medication levels

65. A patient with aneurysmal SAH develops reduced consciousness and enlarging ventricles. What treatment is most appropriate for symptomatic acute hydrocephalus?

- A.** Repeated hypertonic saline as definitive CSF diversion
- B.** Therapeutic anticoagulation
- C.** Carotid stenting
- D.** No intervention despite decline
- E.** CSF diversion with an external ventricular drain

66. A febrile neuro-ICU patient develops septic shock from a suspected catheter infection. Which management principle is most important early?

- A.** Lower MAP intentionally
- B.** Avoid source control
- C.** Delay antibiotics until every culture is finalized
- D.** Treat fever alone
- E.** Early antibiotics and source control

67. Five days after craniotomy, a patient develops fever, headache, wound erythema, and worsening encephalopathy. Which complication is most concerning?

- A.** Postoperative CNS or surgical-site infection
- B.** Uncomplicated peripheral neuropathy
- C.** Cerebral salt wasting alone
- D.** Normal postoperative recovery
- E.** Isolated chronic migraine

68. After an acute high cervical spinal cord injury, a patient is hypotensive with a heart rate of 42/min and warm extremities. Which diagnosis best fits?

- A.** Neurogenic shock
- B.** Cardiogenic shock from tamponade
- C.** Hemorrhagic shock with reflex tachycardia
- D.** Spinal shock
- E.** Thyroid storm

69. A patient has fever, neck stiffness, encephalopathy, and CSF findings strongly suggestive of bacterial meningitis. What treatment principle is most important?

- A.** Wait for final culture identification before antibiotics
- B.** Prompt empiric IV antibiotics with appropriately timed dexamethasone
- C.** Use oral antibiotics only
- D.** Treat with acyclovir alone regardless of bacterial evidence
- E.** Avoid corticosteroid consideration in all pneumococcal suspicion

70. Immediately after a severe spinal cord injury, a patient has flaccid paralysis and absent reflexes below the lesion. What is this neurologic state called?

- A.** Autonomic dysreflexia

- B. Brown-Séquard syndrome**
- C. Central cord syndrome**
- D. Spinal shock**
- E. Neurogenic shock**

71. An external ventricular drain is ordered to drain when ICP exceeds a threshold. The transducer is inadvertently positioned well below the prescribed reference level. What is the main risk?

- A. Complete prevention of CSF drainage**
- B. Immediate cerebral vasospasm**
- C. Loss of EEG signal**
- D. Falsely low serum sodium**
- E. Overdrainage from a low EVD level**

72. A patient has fever, confusion, focal seizures, and MRI abnormalities in the temporal lobes. What treatment should be started while diagnostic testing is pending?

- A. Desmopressin**
- B. Intravenous acyclovir**
- C. Plasma exchange**
- D. Oral amoxicillin alone**
- E. Nimodipine**

73. A hemodynamically stable mechanically ventilated neuro-ICU patient cannot eat safely. What nutritional approach is generally preferred?

- A. Immediate total parenteral nutrition for every patient**
- B. Early enteral nutrition**
- C. Avoid protein during critical illness**
- D. Only intravenous dextrose**

E. Routine prolonged starvation

74. Within hours of a severe acute brain injury, the outcome range remains broad and important sedative confounders are present. What is the best practice?

- A. State that poor outcome is certain
- B. Ignore medication confounding
- C. Use a single early examination as definitive prognosis
- D. Acknowledge uncertainty and avoid premature irreversible decisions
- E. Assume all severe brain injuries have the same trajectory

75. A severely malnourished patient develops weakness and respiratory failure soon after nutrition is restarted. Which electrolyte abnormality is most characteristic?

- A. Hypercalcemia
- B. Hypermagnesemia
- C. Hyperphosphatemia
- D. Isolated hyponatremia
- E. Hypophosphatemia

76. A patient has continuous generalized tonic-clonic activity lasting more than 5 minutes. What is the preferred first-line drug class?

- A. A proton-pump inhibitor
- B. A statin
- C. A benzodiazepine
- D. An antiplatelet drug
- E. A thiazide diuretic

77. Which neuro-ICU patient has the clearest indication for pharmacologic stress-ulcer prophylaxis? Choose the best answer.

- A.** Every ambulatory patient with headache
- B.** A patient discharged from the ICU
- C.** Prolonged ventilation or coagulopathy
- D.** A patient eating normally without critical illness risk factors
- E.** A patient with isolated mild hypertension

78. Several days after aneurysmal subarachnoid hemorrhage, serial transcranial Doppler velocities in the middle cerebral artery rise substantially. What complication is this study commonly used to screen for?

- A.** Cerebral vasospasm
- B.** Neuromuscular junction failure
- C.** Adrenal crisis
- D.** Pulmonary embolism
- E.** Bacterial ventriculitis

79. Seizures continue despite an adequate benzodiazepine and an appropriately dosed second-line antiseizure medication. What is the next management principle?

- A.** Use neuromuscular blockade alone
- B.** Treat only if convulsions return
- C.** Continuous-EEG-guided anesthetic therapy
- D.** Stop EEG monitoring
- E.** Observe ongoing electrographic seizures

80. An immobile patient with acute spontaneous intracerebral hemorrhage has no contraindication to mechanical prophylaxis. What should be started early?

- A.** Graduated stockings as the only proven method

- B.** No prophylaxis of any kind
- C.** Full-dose heparin immediately in every case
- D.** Therapeutic thrombolysis
- E.** Intermittent pneumatic compression

81. A patient with severe acute brain injury develops a temperature of 40°C. Why is aggressive evaluation and treatment of fever important?

- A.** Temperature has no effect on oxygen consumption
- B.** Fever guarantees bacterial meningitis
- C.** Fever is protective after all strokes
- D.** Increased cerebral metabolic demand and secondary injury
- E.** Fever consistently lowers cerebral metabolism

82. A patient with Guillain-Barré syndrome has rapidly progressive weakness, a weak cough, and declining forced vital capacity. What is the most important next step?

- A.** Give high-dose corticosteroids as definitive therapy
- B.** Perform emergent craniotomy
- C.** Serial respiratory mechanics and timely intubation
- D.** Wait for pulse oximetry to fall before acting
- E.** Induce hyperventilation

83. A patient undergoing targeted temperature control develops intense shivering. Why should shivering be treated?

- A.** Increased metabolic and oxygen demand
- B.** It proves the patient is awake
- C.** It lowers carbon dioxide to zero
- D.** It always indicates seizure

E. It prevents all infection

84. A patient with severe traumatic brain injury has normal global oxygen saturation but a persistently low brain-tissue oxygen tension near an injured region. What does this monitor primarily provide?

- A. A direct measure of ventricular volume
- B. A serum lactate measurement
- C. A diagnosis of meningitis
- D. A direct whole-brain measurement of neuronal firing
- E. A local measure of cerebral tissue oxygen availability

85. A patient with severe Guillain-Barré syndrome cannot walk independently. Which disease-modifying treatment is appropriate?

- A. Nimodipine
- B. Long-term antibiotics
- C. High-dose corticosteroids alone as standard effective therapy
- D. IVIG or plasma exchange
- E. Thrombolysis

86. A patient with a large intraventricular hemorrhage has persistent fever but repeated cultures and imaging reveal no infection. Which principle is most appropriate?

- A. Antibiotics are permanently required
- B. Fever rules out intracranial injury
- C. Central fever is a diagnosis of exclusion
- D. Central fever should be diagnosed before infection is assessed
- E. All fever after hemorrhage is infectious

87. After skull-base surgery, a patient develops continuous clear unilateral rhinorrhea that increases when leaning forward. What complication should be suspected?

- A.** Guillain-Barré syndrome
- B.** Neurogenic shock
- C.** Acute angle-closure glaucoma
- D.** Central venous thrombosis
- E.** Cerebrospinal fluid leak

88. A euvolemic patient has hypotonic hyponatremia, high urine osmolality, and inappropriately high urine sodium. Which diagnosis is most likely?

- A.** Nephrogenic diabetes insipidus
- B.** Primary hyperaldosteronism
- C.** Central diabetes insipidus
- D.** SIADH with euvolemic hypotonic hyponatremia
- E.** Diabetes mellitus with osmotic diuresis

89. A patient with myasthenia gravis develops rapidly worsening bulbar weakness and respiratory failure after pneumonia. Which treatment plan is most appropriate?

- A.** Airway support plus IVIG or plasma exchange
- B.** Magnesium infusion to improve neuromuscular transmission
- C.** Nimodipine as disease-specific therapy
- D.** Avoid respiratory monitoring
- E.** High-dose sedatives without ventilation

90. After subarachnoid hemorrhage, a patient develops hyponatremia, high urine sodium, polyuria, and clinical hypovolemia. Which diagnosis best fits?

- A.** Primary polydipsia

- B.** Central diabetes insipidus
- C.** Cerebral salt wasting
- D.** Hyperaldosteronism
- E.** SIADH with euvolemia

91. A patient has ICP, CPP, EEG, and brain-tissue oxygen monitoring after severe brain injury. How should these data best be used?

- A.** Assume all probes sample the entire brain equally
- B.** Integrate trends across modalities with the examination and imaging
- C.** Replace neurologic examinations entirely
- D.** Ignore trends and use a single hourly value
- E.** Treat each isolated number without clinical context

92. A young adult develops psychiatric symptoms, seizures, dyskinesias, autonomic instability, and fluctuating consciousness with no clear infection. What diagnosis should be considered prominently?

- A.** Epidural hematoma
- B.** Anti-NMDA receptor encephalitis
- C.** Uncomplicated migraine
- D.** Isolated peripheral neuropathy
- E.** Primary hydrocephalus only

93. After transsphenoidal surgery, a patient develops abrupt polyuria, hypernatremia, and very dilute urine. Which diagnosis is most likely?

- A.** Primary adrenal insufficiency
- B.** Cerebral salt wasting
- C.** Central diabetes insipidus
- D.** Acute glomerulonephritis

E. SIADH

94. A patient with severe stroke is receiving full disease-directed treatment but has distressing symptoms and complex family communication needs. When is palliative-care involvement appropriate?

- A.** Concurrent palliative care
- B.** Only after all life-prolonging treatment is stopped
- C.** Never in the ICU
- D.** Only for cancer diagnoses
- E.** Only after brain death is declared

95. A patient on chronic glucocorticoids presents with shock, hyponatremia, hyperkalemia, and hypoglycemia. What treatment should not be delayed?

- A.** Desmopressin alone
- B.** Flumazenil
- C.** Stress-dose hydrocortisone
- D.** Insulin infusion without dextrose
- E.** Methimazole alone

96. A pregnant patient with severe hypertension develops a generalized seizure. Which medication is first-line for seizure treatment and prevention of recurrence in eclampsia?

- A.** Mannitol
- B.** Magnesium sulfate
- C.** Naloxone
- D.** Nimodipine
- E.** Phenytoin as the preferred first-line obstetric drug

97. A critically ill patient has extreme thyrotoxicosis, hyperthermia, delirium, and atrial fibrillation. Which sequence is appropriate after stabilization?

- A.** Desmopressin and free water
- B.** Iodine before any thionamide in all cases
- C.** No treatment until TSH normalizes
- D.** Levothyroxine loading
- E.** Thionamide before iodine, with beta-blockade

98. A patient develops rapidly ascending weakness and areflexia after a respiratory infection. Which study can support and subtype suspected Guillain-Barré syndrome?

- A.** Transcranial Doppler
- B.** CT perfusion
- C.** Routine echocardiography
- D.** EMG and NCS testing
- E.** Skull radiography

99. An older patient presents with hypothermia, bradycardia, hypoventilation, hyponatremia, and coma from severe hypothyroidism. What treatment is appropriate?

- A.** Methimazole and iodine
- B.** IV thyroid hormone plus steroids
- C.** Aggressive external rewarming as sole therapy
- D.** Naloxone only
- E.** Insulin only

100. A postpartum patient has recurrent thunderclap headaches and angiography shows multifocal segmental cerebral arterial narrowing and dilation. Which diagnosis is most likely?

- A.** Cerebral venous sinus thrombosis

- B.** Aneurysmal subarachnoid hemorrhage
- C.** Posterior reversible encephalopathy syndrome
- D.** Reversible cerebral vasoconstriction syndrome
- E.** Primary angiitis of the central nervous system

101. A patient with severe hyperglycemia and hyperosmolality has altered mental status without major ketoacidosis. What is a core early treatment principle?

- A.** Withhold all fluids
- B.** Induce hypernatremia
- C.** Controlled volume and osmolality correction
- D.** Rapid free-water bolus to normalize sodium instantly
- E.** Immediate bicarbonate in every case

102. A patient with a known pituitary macroadenoma develops sudden severe headache, ophthalmoplegia, visual loss, hypotension, and hyponatremia. What therapy should be given urgently while definitive evaluation proceeds?

- A.** Insulin only
- B.** Nimodipine
- C.** Flumazenil
- D.** Thrombolysis
- E.** IV hydrocortisone

103. A patient develops rapidly worsening acute kidney injury while receiving renally cleared antiseizure and antimicrobial drugs. What medication principle is most important?

- A.** Continue all doses unchanged regardless of clearance
- B.** Reassess dosing and accumulation as renal function changes
- C.** Dose only by body temperature

- D. Increase all maintenance doses
- E. Stop every neurologic medication permanently

104. Lumbar puncture in a patient with suspected bacterial meningitis shows neutrophilic pleocytosis, very high protein, and low CSF glucose. Which diagnosis is most consistent with this profile?

- A. Multiple sclerosis without infection
- B. Guillain-Barré syndrome
- C. Subarachnoid hemorrhage by definition
- D. Bacterial meningitis
- E. Typical viral encephalitis pattern

105. A child develops multifocal neurologic deficits and encephalopathy several weeks after a viral illness. MRI shows large bilateral poorly demarcated white-matter lesions. Which diagnosis is most likely?

- A. Isolated bacterial sinusitis
- B. Myasthenia gravis
- C. Amyotrophic lateral sclerosis
- D. Acute disseminated encephalomyelitis
- E. Epidural hematoma

106. A patient has potassium 7.2 mEq/L with QRS widening. What should be given first to stabilize the myocardium?

- A. Naloxone
- B. Intravenous calcium
- C. Desmopressin
- D. Oral sodium restriction
- E. Mannitol

107. A patient with an external ventricular drain develops headache and new subdural fluid collections after the drain has been kept far below the prescribed level. What mechanism is most likely?

- A.** Cerebral vasospasm from hypercapnia
- B.** Acute adrenal crisis
- C.** Failure of all CSF drainage causing isolated hypertension
- D.** Pulmonary embolism
- E.** EVD overdrainage with intracranial hypotension

108. A patient with acute severe hyponatremia is actively seizing. What is the best immediate therapy?

- A.** No sodium therapy
- B.** Fluid restriction alone while seizure continues
- C.** Rapid infusion of free water
- D.** Hypotonic saline
- E.** A controlled bolus of hypertonic saline

109. A febrile patient with injection drug use has severe back pain followed by rapidly progressive leg weakness. What is the most important next step?

- A.** Urgent MRI, antibiotics, and surgical consultation
- B.** Treat with nimodipine
- C.** Delay antibiotics until paralysis is complete
- D.** Routine lumbar puncture before imaging
- E.** Discharge with analgesics only

110. A patient has had hypernatremia for several days and is hemodynamically stable. How should the free-water deficit generally be corrected?

- A.** Normalize sodium within minutes
- B.** Gradually, with serial sodium monitoring

- C. Give hypertonic saline
- D. Avoid all free water
- E. Use bicarbonate as the sole fluid

111. A febrile patient with confusion and temporal-lobe seizures has CSF lymphocytic pleocytosis with relatively preserved glucose. Which diagnostic test is especially important when herpes simplex encephalitis is suspected?

- A. Bone marrow biopsy
- B. CSF HSV PCR testing
- C. Routine stool culture
- D. Skin prick testing
- E. Serum D-dimer only

112. Laboratory values are sodium 140, chloride 104, and bicarbonate 14 mEq/L. What is the calculated anion gap, excluding potassium?

- A. 22 mEq/L
- B. 14 mEq/L
- C. 8 mEq/L
- D. 118 mEq/L
- E. 36 mEq/L

113. A patient with an external ventricular drain develops fever, worsening mental status, and inflammatory CSF with a positive culture. Which diagnosis is most likely?

- A. Uncomplicated SAH vasospasm
- B. Central diabetes insipidus
- C. Healthcare-associated ventriculitis
- D. Acute peripheral neuropathy

E. Myasthenic crisis

114. Immediately after a witnessed large-volume gastric aspiration, a patient becomes hypoxemic with bilateral infiltrates. Which initial diagnosis is most likely?

- A. Cardiogenic edema in every case
- B. Ventilator-associated pneumonia present before intubation
- C. Pulmonary embolism by definition
- D. Chemical aspiration pneumonitis
- E. Chronic interstitial lung disease

115. A surrogate asks whether stopping a burdensome ventilator treatment is ethically different from never starting it when both choices reflect the patient's informed goals. Which principle is most accurate?

- A. Withholding and withdrawal are ethically equivalent
- B. Once treatment starts it can never be stopped
- C. Withholding is always unethical
- D. Only courts may discontinue ineffective treatment
- E. Withdrawal is always euthanasia

116. After severe traumatic brain injury, a patient has recurrent episodes of tachycardia, hypertension, hyperthermia, diaphoresis, and extensor posturing triggered by stimulation. Which diagnosis best fits?

- A. Autonomic dysreflexia after spinal injury
- B. Paroxysmal sympathetic hyperactivity
- C. Myxedema coma with hypothermia
- D. Central fever after severe brain injury
- E. Neuroleptic malignant syndrome

117. Minutes after a catastrophic subarachnoid hemorrhage, a patient develops acute pulmonary edema without evidence of volume overload. Which mechanism is most likely?

- A.** Pulmonary edema from a sympathetic surge
- B.** Chronic nephrotic syndrome
- C.** Isolated upper-airway obstruction only
- D.** Primary bacterial pneumonia
- E.** Pulmonary fibrosis

118. A patient is being evaluated for death by neurologic criteria after a catastrophic brain injury. What must be established before the neurologic examination is interpreted?

- A.** Any sedative concentration is acceptable
- B.** Severe hypotension improves test validity
- C.** The cause of coma need not be known
- D.** Core hypothermia should be present
- E.** Known permanent brain injury with confounders excluded

119. A patient with aneurysmal subarachnoid hemorrhage develops transient apical left-ventricular dysfunction and modest troponin elevation. Which diagnosis is most likely?

- A.** Stress-induced cardiomyopathy
- B.** End-stage valvular stenosis
- C.** Hypertrophic cardiomyopathy from birth
- D.** Chronic constrictive pericarditis
- E.** Isolated right-to-left shunt

120. A patient with a brain metastasis has progressive focal deficits and extensive vasogenic edema around the lesion. Which medication is commonly used for symptomatic tumor-related edema?

- A.** Flumazenil

- B. Protamine**
- C. Desmopressin**
- D. Nimodipine**
- E. Dexamethasone**

121. A patient with atrial fibrillation and rapid ventricular response becomes hypotensive and develops pulmonary edema. What is the preferred immediate rhythm intervention?

- A. Oral beta-blocker only**
- B. Synchronized cardioversion**
- C. Adenosine as definitive AF therapy**
- D. Unsynchronized defibrillation for a perfusing rhythm**
- E. Observe without treatment**

122. Several days after CAR-T therapy, a patient develops aphasia, confusion, tremor, and seizures. Which syndrome is most likely?

- A. Posterior reversible encephalopathy syndrome**
- B. Herpes simplex encephalitis**
- C. Immune effector cell-associated neurotoxicity**
- D. Nonconvulsive status epilepticus**
- E. Cerebral venous sinus thrombosis**

123. During massive transfusion, a patient develops hypotension, prolonged QT interval, and low ionized calcium. What is the likely mechanism?

- A. Hyperaldosteronism**
- B. Excess vitamin D**
- C. Respiratory acidosis alone**
- D. Citrate-mediated hypocalcemia**

E. Iron deficiency from one transfusion

124. After carotid revascularization, a patient develops severe ipsilateral headache, hypertension, seizures, and focal neurologic symptoms without a new occlusion. Which complication is most likely?

A. Central diabetes insipidus

B. Myxedema coma

C. Guillain-Barré syndrome

D. Hyperperfusion syndrome

E. Spinal shock

125. During a properly prepared apnea test for death by neurologic criteria, the patient develops severe hypotension and hypoxemia. What is the appropriate response?

A. Abort, stabilize, and use an accepted alternative if needed

B. Declare the test positive immediately without criteria

C. Continue regardless of instability

D. Ignore oxygenation because only PaCO₂ matters

E. Give a paralytic and restart without stabilization

126. A septic patient has diffuse bleeding, thrombocytopenia, prolonged PT, low fibrinogen, and markedly elevated D-dimer. Which diagnosis is most likely?

A. Uncomplicated iron deficiency

B. Isolated immune thrombocytopenia

C. Factor XII deficiency alone

D. Thrombotic thrombocytopenic purpura

E. Disseminated intravascular coagulation

127. A child with sickle cell disease develops an acute focal neurologic deficit consistent with ischemic stroke. Which disease-specific treatment should be urgently considered?

- A.** Urgent transfusion, often exchange transfusion
- B.** Long-term iron supplementation as acute reperfusion
- C.** No disease-specific therapy
- D.** Delay transfusion until recovery
- E.** Routine platelet transfusion only

128. A patient has thrombocytopenia, microangiopathic hemolytic anemia, fluctuating neurologic deficits, and normal coagulation studies. What treatment should be initiated urgently when TTP is strongly suspected?

- A.** Platelet transfusion as sole definitive treatment
- B.** Urgent plasma exchange plus immunosuppression
- C.** Heparin thrombolysis
- D.** Wait for ADAMTS13 results before treating
- E.** Vitamin K only

129. A solid-organ transplant recipient taking tacrolimus develops severe hypertension, seizures, and posterior vasogenic edema. Which diagnosis is most likely?

- A.** Epidural hematoma
- B.** Tacrolimus-associated PRES
- C.** Spinal shock
- D.** Guillain-Barré syndrome
- E.** Myxedema coma

130. A ventilated patient with severe asthma develops hypotension, high peak pressures, and expiratory flow that does not return to zero before the next breath. What ventilator problem is most likely?

- A. Severe circuit leak causing no airway pressure
- B. Isolated metabolic alkalosis
- C. Central apnea
- D. Pulmonary fibrosis with low compliance only
- E. Dynamic hyperinflation with intrinsic PEEP

131. A hypotensive ventilated patient has unclear shock physiology. Bedside ultrasound shows a large pericardial effusion with right-sided chamber collapse. What diagnosis is most strongly supported?

- A. Cardiac tamponade
- B. Simple distributive shock
- C. Status epilepticus
- D. Central diabetes insipidus
- E. Isolated cerebral vasospasm

132. A patient with fulminant hepatic failure develops worsening encephalopathy and signs of cerebral edema. Which physiologic problem is a major neurocritical concern?

- A. Bacterial meningitis in every case
- B. Pure spinal shock
- C. Hypercalcemia from parathyroid excess
- D. Isolated chronic peripheral neuropathy
- E. Hyperammonemia-associated cerebral edema

133. A young adult develops unilateral neck pain, partial Horner syndrome, and then a hemispheric ischemic stroke. Which vascular diagnosis is most likely?

- A. Dural arteriovenous fistula
- B. Cervical carotid artery dissection
- C. Aneurysmal SAH

- D. Cerebral venous sinus thrombosis
- E. Primary intracerebral hemorrhage

134. An older neuro-ICU patient has fluctuating inattention without a new focal lesion. Which strategy best reduces modifiable delirium risk?

- A. Immobilize the patient continuously
- B. Avoid hearing aids and glasses
- C. Sleep, mobility, orientation, and minimize sedatives
- D. Use deep benzodiazepine sedation routinely
- E. Eliminate day-night cues

135. In a separate clinical scenario, a comatose adult remains unresponsive after resuscitation from cardiac arrest and temperature management. Sedatives have recently been discontinued. Which prognostication approach is most appropriate?

- A. Delayed multimodal prognostication after confounder clearance
- B. Assume persistent coma at 24 hours proves a poor outcome
- C. Withdraw support immediately for any absent corneal reflex in the first hours
- D. Use a single biomarker as the sole determinant
- E. Base prognosis on the admission motor response alone

136. The clinical team believes an intervention cannot achieve the physiologic goal requested by the family, and disagreement persists. What is the best next step?

- A. Formal conflict-resolution process with ethics support
- B. Provide every requested intervention indefinitely regardless of effect
- C. Avoid documenting the disagreement
- D. Ask security to remove the family
- E. Unilaterally abandon the patient without discussion

137. In a separate neuro-ICU encounter, a patient with severe brain injury has an ICP tracing in which P2 is consistently higher than P1. What does this waveform most strongly indicate?

- A.** Artifact from ventricular drainage
- B.** Reduced intracranial compliance
- C.** Cerebral vasospasm
- D.** Low cerebral perfusion pressure by definition
- E.** Preserved intracranial compliance

138. In a separate neuro-ICU encounter, a patient presents with sudden headache and a new focal deficit. Noncontrast head CT shows a sharply hyperattenuating intraparenchymal collection. What does this CT appearance most strongly suggest?

- A.** Demyelination
- B.** Chronic encephalomalacia
- C.** Acute intracranial blood
- D.** Old lacunar infarction
- E.** Cytotoxic edema without hemorrhage

139. In a separate neuro-ICU encounter, a patient has a mean arterial pressure of 88 mm Hg and an ICP of 18 mm Hg. What is the cerebral perfusion pressure?

- A.** 18 mm Hg
- B.** 70 mm Hg
- C.** 106 mm Hg
- D.** 88 mm Hg
- E.** 52 mm Hg

140. In a separate clinical scenario, a comatose patient has symmetric examination findings, no focal lesion on initial imaging, severe renal failure, and multiple sedating medications. What should be prioritized?

- A. Correct toxic-metabolic and medication causes
- B. Diagnose brain death immediately
- C. Perform decompressive craniectomy
- D. Treat cerebral vasospasm empirically
- E. Assume a hemispheric stroke despite no focal features

141. In a separate clinical scenario, a chronically hypertensive patient develops neurologic worsening when blood pressure is rapidly lowered to a level that would be normal for many adults. Which physiologic principle best explains this?

- A. Cerebral blood flow becomes pressure independent at all pressures
- B. The cerebral autoregulatory curve may be shifted to the right
- C. Venous pressure alone determines cerebral blood flow
- D. Chronic hypertension abolishes cerebral vascular resistance
- E. Autoregulation is governed only by serum sodium

142. In a separate neuro-ICU encounter, a patient with severe hypertension and renal failure develops headache, seizures, visual symptoms, and posterior-predominant vasogenic edema on MRI. Which diagnosis is most likely?

- A. Cerebral venous sinus thrombosis
- B. Hypertensive intracerebral hemorrhage
- C. Acute posterior-circulation ischemic stroke
- D. Viral meningoencephalitis
- E. Posterior reversible encephalopathy syndrome

143. In a separate clinical scenario, cerebral blood flow falls modestly while cerebral metabolic demand is unchanged. Which compensatory response is expected first?

- A. An increase in cerebral oxygen extraction fraction

- B.** An immediate fall in oxygen extraction fraction
- C.** A rise in CSF production
- D.** Complete cessation of aerobic metabolism
- E.** Loss of all autoregulatory vasodilation

144. Following cranial surgery, a patient becomes acutely obtunded. CT shows a large intracranial air collection causing frontal-lobe separation and mass effect. What is the most appropriate interpretation?

- A.** Central diabetes insipidus
- B.** Acute ischemic stroke without relation to surgery
- C.** Tension pneumocephalus with mass effect
- D.** Myasthenic crisis
- E.** Expected benign postoperative air regardless of mass effect

145. In a separate neuro-ICU encounter, a patient develops impaired CSF resorption after subarachnoid hemorrhage. Where is CSF normally absorbed into the venous system?

- A.** Ependymal lining
- B.** Arachnoid granulations
- C.** Basal ganglia
- D.** Choroid plexus
- E.** Cerebral aqueduct

146. In a separate neuro-ICU encounter, a patient with a large hemispheric mass develops a newly dilated nonreactive pupil, decreasing consciousness, and contralateral weakness. What is the immediate priority?

- A.** Induce severe hypercapnia
- B.** Lower blood pressure to profound hypotension
- C.** Give hypotonic fluid

- D. Immediate herniation therapy plus definitive treatment**
- E. Wait for spontaneous recovery without intervention**

147. In a separate neuro-ICU encounter, a patient has a persistent focal deficit but an initially nondiagnostic CT. MRI shows a bright lesion on diffusion-weighted imaging in the symptomatic vascular territory. Which process is most likely?

- A. Acute restricted diffusion**
- B. Remote calcification**
- C. Simple CSF accumulation**
- D. Normal aging only**
- E. Chronic volume loss**

148. In a separate neuro-ICU encounter, a patient with impending transtentorial herniation requires a temporary measure while definitive therapy is arranged. What is the principal acute ICP effect of brief controlled hyperventilation?

- A. Hypocapnic cerebral vasoconstriction**
- B. It directly removes interstitial sodium**
- C. Hypercapnia causes cerebral vasoconstriction**
- D. Hypocapnia increases CSF production**
- E. It increases cerebral metabolic rate**

149. In a separate neuro-ICU encounter, a patient presents within 3 hours of disabling acute ischemic stroke, has no contraindication to intravenous thrombolysis, and CTA shows a proximal large-vessel occlusion. What reperfusion strategy is most appropriate?

- A. Delay thrombolysis until after an unsuccessful thrombectomy**
- B. IV thrombolysis plus rapid thrombectomy evaluation**
- C. Withhold all reperfusion because thrombectomy may be performed**
- D. Use aspirin alone as definitive reperfusion therapy**

E. Wait 24 hours before vascular imaging

150. In a separate neuro-ICU encounter, a patient with intracranial hypertension is hypotensive and has worsening acute kidney injury. Which feature makes mannitol less attractive than hypertonic saline?

- A. It causes cerebral vasodilation
- B. Its osmotic diuresis can aggravate hypovolemia and renal stress
- C. It cannot lower intracranial pressure
- D. It is contraindicated in all traumatic brain injury
- E. It invariably causes severe hypernatremia

151. In a separate clinical scenario, an MRI lesion is bright on DWI. The team wants to distinguish true restricted diffusion from T2 shine-through. Which accompanying finding supports true restriction?

- A. Normal ventricular size
- B. High signal only on T1
- C. Low signal on the ADC map
- D. Diffuse skull hyperostosis
- E. High ADC in the same region

152. In a separate neuro-ICU encounter, a patient with cerebral edema, serum sodium 128 mEq/L, and borderline arterial pressure requires osmotherapy. Which agent is particularly attractive?

- A. Hypotonic crystalloid
- B. Free water
- C. Acetazolamide as an ICP bolus
- D. Dextrose 5% in water
- E. Hypertonic saline

153. In a separate clinical scenario, a 48-year-old with a very large middle cerebral artery infarction develops worsening edema and declining consciousness despite medical therapy. Which intervention can be lifesaving in an appropriately selected patient?

- A.** Carotid massage
- B.** Routine lumbar puncture
- C.** Prophylactic full-dose heparin
- D.** Early decompressive hemicraniectomy
- E.** Chronic hyperventilation as definitive therapy

154. In a separate clinical scenario, a mechanically ventilated patient with refractory intracranial hypertension is receiving a propofol infusion. Which adverse effect is most important during dose escalation?

- A.** Hypotension reducing CPP
- B.** Marked increase in cerebral metabolic rate
- C.** Persistent severe hypertension
- D.** Hypercalcemia
- E.** Direct stimulation of seizures

155. In a separate neuro-ICU encounter, a patient presents with acute coma, quadriparesis, and CTA-confirmed basilar artery occlusion with imaging showing potentially salvageable tissue. What therapy should be urgently considered?

- A.** Elective carotid endarterectomy
- B.** Long-term oral anticoagulation as the immediate reperfusion procedure
- C.** Lumbar drainage as reperfusion
- D.** Mechanical thrombectomy in an appropriate endovascular candidate
- E.** Observation only because posterior circulation stroke is untreatable

156. An incapacitated patient has no written directive but previously made clear statements about unacceptable outcomes. How should the legally recognized surrogate decide?

- A.** Ignore prior statements
- B.** Choose the least expensive care regardless of values
- C.** Always request maximal treatment
- D.** Choose what the surrogate personally would want
- E.** Substituted judgment based on the patient's known values

157. In a separate clinical scenario, a neuro-ICU patient needs light sedation while serial neurologic examinations remain important. Which sedative characteristic is most useful?

- A.** Arousable sedation with relatively limited respiratory depression
- B.** Complete neuromuscular paralysis
- C.** Potent analgesia as a sole opioid substitute
- D.** Marked increase in intracranial pressure
- E.** Reliable deep burst suppression at routine doses

158. In a separate neuro-ICU encounter, a patient awakens with a disabling focal deficit and the exact onset time is unknown. MRI shows a DWI-positive lesion without corresponding marked FLAIR hyperintensity. What does this mismatch suggest?

- A.** The finding proves intracranial hemorrhage
- B.** Relatively recent infarction
- C.** The lesion is a normal variant
- D.** The patient cannot have ischemic stroke
- E.** The lesion is certainly older than one month

159. In a separate neuro-ICU encounter, a patient with severe neurologic injury and marginal blood pressure requires rapid-sequence intubation. Why is etomidate often considered for induction?

- A. It is a vasopressor
- B. Relative hemodynamic stability during induction
- C. It reverses neuromuscular blockade
- D. It provides prolonged analgesia
- E. It eliminates adrenal suppression concerns

160. In a separate neuro-ICU encounter, a patient has an acute spontaneous intracerebral hemorrhage while taking a factor Xa inhibitor and has severe hypertension. Which early management priorities are most appropriate?

- A. Induce marked hypertension
- B. Use prophylactic hypervolemia
- C. Delay reversal for 24 hours
- D. Reverse anticoagulation and control BP
- E. Give thrombolysis

161. In a separate clinical scenario, a hypotensive patient with traumatic brain injury requires induction for intubation. Which statement about ketamine is most accurate?

- A. It has no analgesic effect
- B. It is a neuromuscular blocker
- C. Not contraindicated solely by elevated ICP
- D. It must never be used in brain injury
- E. It consistently causes profound hypotension

162. In a separate neuro-ICU encounter, a patient with a cerebellar hemorrhage develops worsening consciousness, brainstem compression, and obstructive hydrocephalus. What is the best next step?

- A. Lumbar puncture to relieve pressure
- B. Anticoagulation

- C. Induce hypercapnia
- D. Routine outpatient follow-up
- E. Urgent surgical evacuation

163. In another case, three weeks after a high cervical spinal cord injury, a patient requires urgent reintubation. What is the major concern with succinylcholine?

- A. Immediate adrenal crisis
- B. Profound hyponatremia
- C. Denervation-related hyperkalemia
- D. Loss of all analgesia
- E. Severe hypocalcemia from citrate binding

164. In a separate clinical scenario, hours after craniotomy, a patient develops a new focal deficit and declining consciousness. What is the first diagnostic step?

- A. Lumbar puncture before imaging
- B. Routine outpatient MRI in one month
- C. Urgent noncontrast head CT
- D. Observation without imaging
- E. Carotid massage

165. In a separate neuro-ICU encounter, a patient with status epilepticus receives a long-acting dose of rocuronium for intubation. What neurocritical-care limitation should be anticipated?

- A. It directly terminates cortical seizures
- B. Paralysis can mask ongoing seizures
- C. It prevents EEG interpretation
- D. It reliably lowers serum sodium
- E. It causes immediate cerebral infarction

166. In a separate neuro-ICU encounter, a patient with intraventricular hemorrhage becomes progressively somnolent. CT shows acute obstructive hydrocephalus. What intervention is most appropriate?

- A.** Indefinite observation
- B.** External ventricular drainage
- C.** Routine carotid endarterectomy
- D.** Therapeutic lumbar puncture despite obstructive hydrocephalus
- E.** Immediate IV thrombolysis

167. In a separate clinical scenario, mRI is obtained to assess a patient with possible cerebral amyloid angiopathy. Which sequence is most sensitive for hemosiderin-containing microbleeds?

- A.** SWI or gradient-echo imaging
- B.** Diffusion tensor tractography alone
- C.** MR myelography
- D.** T1 imaging alone
- E.** Noncontrast MR angiography only

168. In another emergency presentation, an obtunded patient has pinpoint pupils, bradypnea, and suspected opioid toxicity. What is the immediate antidotal therapy?

- A.** Atropine
- B.** Naloxone
- C.** Flumazenil
- D.** Protamine
- E.** Fomepizole

169. In a separate clinical scenario, cTA identifies a ruptured saccular aneurysm in a patient with aneurysmal subarachnoid hemorrhage. What definitive principle is most important early?

- A. Perform repeated lumbar punctures as definitive therapy
- B. Secure the ruptured aneurysm as early as feasible
- C. Induce prophylactic hypervolemia before repair
- D. Leave the aneurysm untreated until vasospasm resolves
- E. Start long-term anticoagulation first

170. In a separate neuro-ICU encounter, a patient with chronic benzodiazepine use presents after an unknown mixed overdose. Why is routine flumazenil use risky?

- A. It predictably induces hyperkalemia
- B. It causes irreversible opioid receptor blockade
- C. It is ineffective at benzodiazepine receptors
- D. It always causes cerebral edema
- E. Seizures or acute benzodiazepine withdrawal

171. In a separate neuro-ICU encounter, a patient with an acute disabling hemispheric stroke is being evaluated for endovascular therapy. Which rapid noninvasive study best demonstrates a proximal intracranial large-vessel occlusion?

- A. Routine EEG
- B. Lumbar puncture
- C. Plain skull radiography
- D. CT angiography
- E. Carotid auscultation

172. In a separate neuro-ICU encounter, a patient with intracerebral hemorrhage needs smooth, rapidly titratable blood-pressure reduction. Which infusion is commonly useful?

- A. Digoxin
- B. Nicardipine

- C. Mannitol
- D. Fludrocortisone
- E. Midodrine

173. In a separate neuro-ICU encounter, a patient with aneurysmal subarachnoid hemorrhage has had the aneurysm secured. Which medication is routinely used to improve neurologic outcome after aneurysmal SAH?

- A. Enteral nimodipine
- B. Acetazolamide for all patients
- C. Routine high-dose corticosteroids
- D. Long-term mannitol
- E. Daily thrombolysis

174. In a separate neuro-ICU encounter, a patient needs an intravenous antihypertensive with a very short context-sensitive duration for minute-to-minute titration. Which agent best fits this goal?

- A. Clevidipine
- B. Spironolactone
- C. Clonidine patch
- D. Hydrochlorothiazide
- E. Lisinopril

175. In a separate clinical scenario, on day 7 after aneurysmal SAH, a patient develops a new focal deficit not explained by rebleeding, hydrocephalus, seizure, or metabolic disturbance. Which complication should be strongly suspected?

- A. Epidural hematoma from trauma
- B. Delayed cerebral ischemia
- C. Guillain-Barré syndrome

- D. Myxedema coma**
- E. Spinal shock**

176. In a separate clinical scenario, a neurocritical-care patient has distributive septic shock after adequate initial fluid assessment. Which vasopressor is generally first-line?

- A. Dobutamine alone**
- B. Nitroglycerin**
- C. Adenosine**
- D. Norepinephrine**
- E. Nicardipine**

177. A patient with catastrophic brain injury does not meet criteria for death by neurologic criteria, but the decision is made to withdraw life-sustaining treatment and organ donation is considered. Which donation pathway may be possible?

- A. Ignore informed authorization requirements**
- B. Remove organs before death is declared**
- C. Declare brain death without testing**
- D. Use only living donation rules**
- E. Donation after circulatory death (DCD)**

178. In a separate clinical scenario, a hypotensive patient has a clinically important tachyarrhythmia that makes additional beta-adrenergic stimulation undesirable. Which vasopressor has essentially pure alpha-1 activity?

- A. Dobutamine**
- B. Isoproterenol**
- C. Milrinone**
- D. Epinephrine**

E. Phenylephrine

179. In a separate neuro-ICU encounter, a patient has headache, seizures, and hemorrhagic venous infarction from cerebral venous sinus thrombosis. What disease-specific treatment is generally indicated despite the hemorrhagic venous infarct?

- A. Routine thrombolysis for every patient
- B. Therapeutic anticoagulation despite hemorrhagic venous infarction
- C. Long-term dual antiplatelet therapy as first-line
- D. No treatment unless arterial occlusion occurs
- E. Avoid all antithrombotic therapy because any hemorrhage is absolute contraindication

180. In a separate neuro-ICU encounter, a patient with a large-vessel occlusion presents outside the earliest treatment window. What is the principal purpose of CT perfusion in selected patients?

- A. Infarct-core and penumbra estimation
- B. Quantify neuromuscular junction transmission
- C. Measure CSF protein
- D. Directly record cortical electrical activity
- E. Diagnose bacterial meningitis

181. In a separate neuro-ICU encounter, a patient with vasodilatory shock remains hypotensive despite substantial norepinephrine. What is a common role for vasopressin?

- A. Reversal of benzodiazepines
- B. Direct treatment of cerebral edema
- C. Induction of neuromuscular blockade
- D. Adjunct vasopressor therapy
- E. First-line thrombolysis

182. In a separate neuro-ICU encounter, a patient with severe traumatic brain injury has persistently elevated ICP despite initial measures. At what sustained ICP level is treatment generally recommended in current severe TBI guidance?

- A.** ICP should never guide therapy
- B.** Above 22 mm Hg
- C.** Above 40 mm Hg only
- D.** Above 10 mm Hg
- E.** Above 5 mm Hg

183. In a separate neuro-ICU encounter, a patient has adequate arterial pressure but low cardiac output with evidence of end-organ hypoperfusion. Which infusion primarily provides inotropic support?

- A.** Vasopressin
- B.** Furosemide
- C.** Nicardipine
- D.** Phenylephrine
- E.** Dobutamine

184. Following surgical clipping of an intracranial aneurysm, a patient awakens with a new dense hemiparesis. Which complication must be urgently excluded?

- A.** Central diabetes insipidus as the sole cause
- B.** Guillain-Barré syndrome
- C.** Spinal epidural abscess
- D.** Chronic subdural hematoma
- E.** Arterial compromise causing cerebral ischemia

185. In a separate neuro-ICU encounter, a patient with aneurysmal subarachnoid hemorrhage is neurologically stable after aneurysm securement. What volume strategy is preferred?

- A. Maintain deliberate dehydration
- B. Restrict all isotonic fluid
- C. Induce routine hypervolemia in all patients
- D. Maintain euvolemia with isotonic fluid as needed
- E. Use hypotonic maintenance fluid

186. Following head trauma, a patient briefly loses consciousness, improves, then deteriorates rapidly. CT shows a biconvex extra-axial hematoma. Which diagnosis is most likely?

- A. Ischemic lacune
- B. Diffuse subarachnoid hemorrhage only
- C. Chronic subdural hematoma
- D. Epidural hematoma
- E. Cerebral abscess

187. In a separate neuro-ICU encounter, a patient has a complex cerebral aneurysm whose detailed vascular anatomy must be defined, with possible treatment during the same procedure. Which test provides the most detailed catheter-based vascular assessment?

- A. Chest CT
- B. Electroencephalography
- C. Transcranial Doppler alone
- D. Routine noncontrast MRI only
- E. Digital subtraction angiography

188. On a later ICU shift, an intubated neuro-ICU patient is expected to remain ventilated for several days. Which practice is part of a ventilator-associated-pneumonia prevention strategy?

- A. Scheduled broad-spectrum antibiotics for all patients
- B. Daily replacement of the endotracheal tube

- C. Head-of-bed elevation when not contraindicated
- D. Avoidance of oral care
- E. Routine supine positioning

189. During a separate admission, an older patient on antithrombotic therapy falls and develops declining consciousness. CT shows a crescent-shaped extra-axial collection with mass effect. Which diagnosis is most likely?

- A. Cerebral venous thrombosis
- B. PRES
- C. Pituitary apoplexy
- D. Acute subdural hematoma
- E. Epidural hematoma

190. In a separate clinical scenario, a ventilated patient with acute respiratory distress syndrome has no contraindication to lung-protective ventilation. How should tidal volume be selected?

- A. Use a low tidal volume based on predicted body weight
- B. Increase tidal volume until plateau pressure rises
- C. Use a fixed 1 liter tidal volume
- D. Use actual body weight with large tidal volumes
- E. Use body surface area only

191. In a separate clinical scenario, a mechanically ventilated patient with ARDS has rising airway pressures. Which measurement best reflects alveolar distending pressure during an inspiratory hold?

- A. End-tidal oxygen concentration
- B. Plateau pressure
- C. Mean arterial pressure
- D. Central venous pressure

E. Peak expiratory flow

192. In a separate neuro-ICU encounter, a patient remains comatose after high-speed rotational trauma. CT shows relatively little mass lesion, while MRI demonstrates multiple punctate lesions at the gray-white junction and corpus callosum. Which diagnosis is most likely?

- A. Diffuse axonal injury
- B. Bacterial ventriculitis
- C. Myasthenic crisis
- D. Isolated epidural hematoma
- E. PRES

193. Following convulsive status epilepticus is treated, a patient remains comatose without visible motor activity. Which test is most important to detect ongoing nonconvulsive seizures?

- A. Carotid ultrasound
- B. Chest radiography
- C. Electromyography of one limb
- D. Continuous electroencephalography
- E. Serum troponin alone

194. In a separate neuro-ICU encounter, a patient with brain injury and hypoxemic respiratory failure requires PEEP. Which statement is most accurate?

- A. PEEP replaces osmotherapy
- B. PEEP always lowers ICP to zero
- C. Use PEEP with ICP and hemodynamic monitoring
- D. PEEP has no cardiopulmonary effects
- E. Any PEEP is absolutely contraindicated in brain injury

195. In a separate neuro-ICU encounter, a patient with acute cervical spinal cord injury is hypotensive after resuscitation of hemorrhage. Which hemodynamic principle is most important?

- A.** Permit sustained profound hypotension
- B.** Avoid hypotension and support spinal cord perfusion
- C.** Induce marked hypercapnia as definitive therapy
- D.** Restrict all fluids regardless of perfusion
- E.** Use routine thrombolysis

196. In a separate clinical scenario, a ventilated patient with intracranial hypertension develops marked hypercapnia. Why can this worsen ICP?

- A.** Cerebral vasodilation with increased cerebral blood volume
- B.** It causes osmotic diuresis
- C.** Hypercapnia causes intense cerebral vasoconstriction
- D.** It invariably lowers arterial pressure
- E.** It abruptly stops CSF production

197. A patient has been declared dead by neurologic criteria and is an authorized organ donor. What is the clinical objective of ongoing ICU management?

- A.** Maintain organ perfusion and physiologic stability
- B.** Allow untreated severe hypotension
- C.** Avoid correcting endocrine and electrolyte disturbances
- D.** Induce profound hypoxemia
- E.** Stop all ventilation immediately

198. In a separate neuro-ICU encounter, a patient suddenly becomes hypotensive and hypoxemic. Bedside echocardiography shows right-ventricular dilation with a small left ventricle. Which shock mechanism is most likely?

- A. Isolated hypovolemia without obstruction
- B. Pure distributive shock
- C. Primary left-to-right shunt
- D. Neurogenic shock
- E. Massive pulmonary embolism

199. In a separate neuro-ICU encounter, a patient with aneurysmal SAH develops reduced consciousness and enlarging ventricles. What treatment is most appropriate for symptomatic acute hydrocephalus?

- A. CSF diversion with an external ventricular drain
- B. Therapeutic anticoagulation
- C. No intervention despite decline
- D. Repeated hypertonic saline as definitive CSF diversion
- E. Carotid stenting

200. In a separate neuro-ICU encounter, a patient with refractory status epilepticus is receiving an intravenous anesthetic infusion. Why is continuous EEG particularly important?

- A. It replaces all antiseizure medication levels
- B. It measures cerebral blood flow quantitatively in all regions
- C. EEG-guided electrographic seizure suppression
- D. It determines glomerular filtration rate
- E. It directly measures intracranial pressure

201. In a separate clinical scenario, a febrile neuro-ICU patient develops septic shock from a suspected catheter infection. Which management principle is most important early?

- A. Early antibiotics and source control
- B. Delay antibiotics until every culture is finalized

- C. Treat fever alone
- D. Avoid source control
- E. Lower MAP intentionally

202. In a separate neuro-ICU encounter, a patient has fever, neck stiffness, encephalopathy, and CSF findings strongly suggestive of bacterial meningitis. What treatment principle is most important?

- A. Wait for final culture identification before antibiotics
- B. Treat with acyclovir alone regardless of bacterial evidence
- C. Use oral antibiotics only
- D. Avoid corticosteroid consideration in all pneumococcal suspicion
- E. Prompt empiric IV antibiotics with appropriately timed dexamethasone

203. Following an acute high cervical spinal cord injury, a patient is hypotensive with a heart rate of 42/min and warm extremities. Which diagnosis best fits?

- A. Spinal shock
- B. Neurogenic shock
- C. Cardiogenic shock from tamponade
- D. Hemorrhagic shock with reflex tachycardia
- E. Thyroid storm

204. In a separate clinical scenario, five days after craniotomy, a patient develops fever, headache, wound erythema, and worsening encephalopathy. Which complication is most concerning?

- A. Isolated chronic migraine
- B. Postoperative CNS or surgical-site infection
- C. Cerebral salt wasting alone
- D. Normal postoperative recovery
- E. Uncomplicated peripheral neuropathy

205. In another case, immediately after a severe spinal cord injury, a patient has flaccid paralysis and absent reflexes below the lesion. What is this neurologic state called?

- A.** Brown-Séquard syndrome
- B.** Autonomic dysreflexia
- C.** Neurogenic shock
- D.** Central cord syndrome
- E.** Spinal shock

206. In a separate neuro-ICU encounter, a patient has fever, confusion, focal seizures, and MRI abnormalities in the temporal lobes. What treatment should be started while diagnostic testing is pending?

- A.** Desmopressin
- B.** Nimodipine
- C.** Plasma exchange
- D.** Intravenous acyclovir
- E.** Oral amoxicillin alone

207. In a separate clinical scenario, an external ventricular drain is ordered to drain when ICP exceeds a threshold. The transducer is inadvertently positioned well below the prescribed reference level. What is the main risk?

- A.** Falsely low serum sodium
- B.** Overdrainage from a low EVD level
- C.** Loss of EEG signal
- D.** Immediate cerebral vasospasm
- E.** Complete prevention of CSF drainage

208. In a separate clinical scenario, a hemodynamically stable mechanically ventilated neuro-ICU patient cannot eat safely. What nutritional approach is generally preferred?

- A.** Only intravenous dextrose
- B.** Early enteral nutrition
- C.** Avoid protein during critical illness
- D.** Routine prolonged starvation
- E.** Immediate total parenteral nutrition for every patient

209. In a separate neuro-ICU encounter, a patient has continuous generalized tonic-clonic activity lasting more than 5 minutes. What is the preferred first-line drug class?

- A.** A thiazide diuretic
- B.** A proton-pump inhibitor
- C.** An antiplatelet drug
- D.** A benzodiazepine
- E.** A statin

210. In a separate clinical scenario, a severely malnourished patient develops weakness and respiratory failure soon after nutrition is restarted. Which electrolyte abnormality is most characteristic?

- A.** Hypermagnesemia
- B.** Hyperphosphatemia
- C.** Hypercalcemia
- D.** Hypophosphatemia
- E.** Isolated hypernatremia

211. Among another group of neuro-ICU patients, which patient has the clearest indication for pharmacologic stress-ulcer prophylaxis? Choose the best answer.

- A.** Prolonged ventilation or coagulopathy

- B.** A patient discharged from the ICU
- C.** A patient with isolated mild hypertension
- D.** A patient eating normally without critical illness risk factors
- E.** Every ambulatory patient with headache

212. In a separate clinical scenario, seizures continue despite an adequate benzodiazepine and an appropriately dosed second-line antiseizure medication. What is the next management principle?

- A.** Continuous-EEG-guided anesthetic therapy
- B.** Use neuromuscular blockade alone
- C.** Observe ongoing electrographic seizures
- D.** Treat only if convulsions return
- E.** Stop EEG monitoring

213. In a different hospitalization, several days after aneurysmal subarachnoid hemorrhage, serial transcranial Doppler velocities in the middle cerebral artery rise substantially. What complication is this study commonly used to screen for?

- A.** Pulmonary embolism
- B.** Bacterial ventriculitis
- C.** Adrenal crisis
- D.** Neuromuscular junction failure
- E.** Cerebral vasospasm

214. In a separate ICU case, an immobile patient with acute spontaneous intracerebral hemorrhage has no contraindication to mechanical prophylaxis. What should be started early?

- A.** No prophylaxis of any kind
- B.** Therapeutic thrombolysis
- C.** Full-dose heparin immediately in every case

- D.** Graduated stockings as the only proven method
- E.** Intermittent pneumatic compression

215. In a separate neuro-ICU encounter, a patient with Guillain-Barré syndrome has rapidly progressive weakness, a weak cough, and declining forced vital capacity. What is the most important next step?

- A.** Wait for pulse oximetry to fall before acting
- B.** Give high-dose corticosteroids as definitive therapy
- C.** Perform emergent craniotomy
- D.** Serial respiratory mechanics and timely intubation
- E.** Induce hyperventilation

216. In a separate neuro-ICU encounter, a patient with severe acute brain injury develops a temperature of 40°C. Why is aggressive evaluation and treatment of fever important?

- A.** Fever consistently lowers cerebral metabolism
- B.** Fever guarantees bacterial meningitis
- C.** Fever is protective after all strokes
- D.** Temperature has no effect on oxygen consumption
- E.** Increased cerebral metabolic demand and secondary injury

217. An incapacitated neurocritical-care patient is eligible for a non-emergency research study that requires informed consent. What is the appropriate approach?

- A.** Ask another patient's family to consent
- B.** Assume ICU admission is research consent
- C.** Authorized surrogate consent under the approved protocol
- D.** Enroll without any authorization because the patient is unconscious
- E.** Change the protocol after enrollment without review

218. In a separate neuro-ICU encounter, a patient undergoing targeted temperature control develops intense shivering. Why should shivering be treated?

- A.** It prevents all infection
- B.** It always indicates seizure
- C.** It proves the patient is awake
- D.** It lowers carbon dioxide to zero
- E.** Increased metabolic and oxygen demand

219. In a separate neuro-ICU encounter, a patient with severe Guillain-Barré syndrome cannot walk independently. Which disease-modifying treatment is appropriate?

- A.** IVIG or plasma exchange
- B.** Long-term antibiotics
- C.** High-dose corticosteroids alone as standard effective therapy
- D.** Thrombolysis
- E.** Nimodipine

220. In a separate neuro-ICU encounter, a patient with severe traumatic brain injury has normal global oxygen saturation but a persistently low brain-tissue oxygen tension near an injured region. What does this monitor primarily provide?

- A.** A diagnosis of meningitis
- B.** A direct whole-brain measurement of neuronal firing
- C.** A direct measure of ventricular volume
- D.** A local measure of cerebral tissue oxygen availability
- E.** A serum lactate measurement

221. In a separate neuro-ICU encounter, a patient with a large intraventricular hemorrhage has persistent fever but repeated cultures and imaging reveal no infection. Which principle is most appropriate?

- A.** All fever after hemorrhage is infectious
- B.** Central fever is a diagnosis of exclusion
- C.** Fever rules out intracranial injury
- D.** Antibiotics are permanently required
- E.** Central fever should be diagnosed before infection is assessed

222. In a separate neuro-ICU encounter, a patient with myasthenia gravis develops rapidly worsening bulbar weakness and respiratory failure after pneumonia. Which treatment plan is most appropriate?

- A.** High-dose sedatives without ventilation
- B.** Nimodipine as disease-specific therapy
- C.** Avoid respiratory monitoring
- D.** Magnesium infusion to improve neuromuscular transmission
- E.** Airway support plus IVIG or plasma exchange

223. In a separate clinical scenario, a euvolemic patient has hypotonic hyponatremia, high urine osmolality, and inappropriately high urine sodium. Which diagnosis is most likely?

- A.** SIADH with euvolemic hypotonic hyponatremia
- B.** Central diabetes insipidus
- C.** Nephrogenic diabetes insipidus
- D.** Diabetes mellitus with osmotic diuresis
- E.** Primary hyperaldosteronism

224. Following skull-base surgery, a patient develops continuous clear unilateral rhinorrhea that increases when leaning forward. What complication should be suspected?

- A.** Acute angle-closure glaucoma
- B.** Guillain-Barré syndrome
- C.** Cerebrospinal fluid leak

- D. Neurogenic shock**
- E. Central venous thrombosis**

225. Following subarachnoid hemorrhage, a patient develops hyponatremia, high urine sodium, polyuria, and clinical hypovolemia. Which diagnosis best fits?

- A. Cerebral salt wasting**
- B. Hyperaldosteronism**
- C. Central diabetes insipidus**
- D. SIADH with euvolemia**
- E. Primary polydipsia**

226. In a separate clinical scenario, a young adult develops psychiatric symptoms, seizures, dyskinesias, autonomic instability, and fluctuating consciousness with no clear infection. What diagnosis should be considered prominently?

- A. Primary hydrocephalus only**
- B. Epidural hematoma**
- C. Isolated peripheral neuropathy**
- D. Anti-NMDA receptor encephalitis**
- E. Uncomplicated migraine**

227. In a separate neuro-ICU encounter, a patient has ICP, CPP, EEG, and brain-tissue oxygen monitoring after severe brain injury. How should these data best be used?

- A. Treat each isolated number without clinical context**
- B. Ignore trends and use a single hourly value**
- C. Assume all probes sample the entire brain equally**
- D. Replace neurologic examinations entirely**
- E. Integrate trends across modalities with the examination and imaging**

228. Following transsphenoidal surgery, a patient develops abrupt polyuria, hypernatremia, and very dilute urine. Which diagnosis is most likely?

- A.** Primary adrenal insufficiency
- B.** Acute glomerulonephritis
- C.** Cerebral salt wasting
- D.** SIADH
- E.** Central diabetes insipidus

229. In a separate clinical scenario, a pregnant patient with severe hypertension develops a generalized seizure. Which medication is first-line for seizure treatment and prevention of recurrence in eclampsia?

- A.** Magnesium sulfate
- B.** Mannitol
- C.** Naloxone
- D.** Phenytoin as the preferred first-line obstetric drug
- E.** Nimodipine

230. In a separate neuro-ICU encounter, a patient on chronic glucocorticoids presents with shock, hyponatremia, hyperkalemia, and hypoglycemia. What treatment should not be delayed?

- A.** Insulin infusion without dextrose
- B.** Desmopressin alone
- C.** Stress-dose hydrocortisone
- D.** Flumazenil
- E.** Methimazole alone

231. In a separate clinical scenario, a critically ill patient has extreme thyrotoxicosis, hyperthermia, delirium, and atrial fibrillation. Which sequence is appropriate after stabilization?

- A.** No treatment until TSH normalizes

- B.** Iodine before any thionamide in all cases
- C.** Desmopressin and free water
- D.** Levothyroxine loading
- E.** Thionamide before iodine, with beta-blockade

232. In a separate clinical scenario, a postpartum patient has recurrent thunderclap headaches and angiography shows multifocal segmental cerebral arterial narrowing and dilation. Which diagnosis is most likely?

- A.** Cerebral venous sinus thrombosis
- B.** Primary angiitis of the central nervous system
- C.** Posterior reversible encephalopathy syndrome
- D.** Reversible cerebral vasoconstriction syndrome
- E.** Aneurysmal subarachnoid hemorrhage

233. In a separate neuro-ICU encounter, a patient develops rapidly ascending weakness and areflexia after a respiratory infection. Which study can support and subtype suspected Guillain-Barré syndrome?

- A.** Routine echocardiography
- B.** CT perfusion
- C.** EMG and NCS testing
- D.** Transcranial Doppler
- E.** Skull radiography

234. During a separate admission, an older patient presents with hypothermia, bradycardia, hypoventilation, hyponatremia, and coma from severe hypothyroidism. What treatment is appropriate?

- A.** Methimazole and iodine
- B.** Aggressive external rewarming as sole therapy
- C.** IV thyroid hormone plus steroids

- D. Insulin only**
- E. Naloxone only**

235. In a separate neuro-ICU encounter, a patient with a known pituitary macroadenoma develops sudden severe headache, ophthalmoplegia, visual loss, hypotension, and hyponatremia. What therapy should be given urgently while definitive evaluation proceeds?

- A. IV hydrocortisone**
- B. Insulin only**
- C. Thrombolysis**
- D. Nimodipine**
- E. Flumazenil**

236. In a separate neuro-ICU encounter, a patient with severe hyperglycemia and hyperosmolarity has altered mental status without major ketoacidosis. What is a core early treatment principle?

- A. Withhold all fluids**
- B. Controlled volume and osmolality correction**
- C. Rapid free-water bolus to normalize sodium instantly**
- D. Induce hypernatremia**
- E. Immediate bicarbonate in every case**

237. A neuro-ICU wants to reduce unplanned extubations. The team implements a change, measures the result, studies failures, and modifies the process repeatedly. Which improvement model does this best illustrate?

- A. Bayesian updating without implementation**
- B. A randomized trial is required for every local process change**
- C. A single retrospective anecdote**
- D. Plan-Do-Study-Act cycles**

E. Case-control sampling only

238. In a separate neuro-ICU encounter, a patient develops rapidly worsening acute kidney injury while receiving renally cleared antiseizure and antimicrobial drugs. What medication principle is most important?

- A. Increase all maintenance doses
- B. Dose only by body temperature
- C. Reassess dosing and accumulation as renal function changes
- D. Continue all doses unchanged regardless of clearance
- E. Stop every neurologic medication permanently

239. In a separate clinical scenario, a child develops multifocal neurologic deficits and encephalopathy several weeks after a viral illness. MRI shows large bilateral poorly demarcated white-matter lesions. Which diagnosis is most likely?

- A. Epidural hematoma
- B. Acute disseminated encephalomyelitis
- C. Myasthenia gravis
- D. Isolated bacterial sinusitis
- E. Amyotrophic lateral sclerosis

240. In a separate clinical scenario, lumbar puncture in a patient with suspected bacterial meningitis shows neutrophilic pleocytosis, very high protein, and low CSF glucose. Which diagnosis is most consistent with this profile?

- A. Multiple sclerosis without infection
- B. Subarachnoid hemorrhage by definition
- C. Guillain-Barré syndrome
- D. Typical viral encephalitis pattern
- E. Bacterial meningitis

241. In a separate neuro-ICU encounter, a patient has potassium 7.2 mEq/L with QRS widening. What should be given first to stabilize the myocardium?

- A.** Naloxone
- B.** Mannitol
- C.** Oral sodium restriction
- D.** Desmopressin
- E.** Intravenous calcium

242. In a separate clinical scenario, a febrile patient with injection drug use has severe back pain followed by rapidly progressive leg weakness. What is the most important next step?

- A.** Treat with nimodipine
- B.** Delay antibiotics until paralysis is complete
- C.** Urgent MRI, antibiotics, and surgical consultation
- D.** Discharge with analgesics only
- E.** Routine lumbar puncture before imaging

243. In a separate neuro-ICU encounter, a patient with acute severe hyponatremia is actively seizing. What is the best immediate therapy?

- A.** A controlled bolus of hypertonic saline
- B.** Fluid restriction alone while seizure continues
- C.** No sodium therapy
- D.** Rapid infusion of free water
- E.** Hypotonic saline

244. In a separate neuro-ICU encounter, a patient with an external ventricular drain develops headache and new subdural fluid collections after the drain has been kept far below the prescribed level. What mechanism is most likely?

- A. Pulmonary embolism
- B. Acute adrenal crisis
- C. Cerebral vasospasm from hypercapnia
- D. Failure of all CSF drainage causing isolated hypertension
- E. EVD overdrainage with intracranial hypotension

245. In a separate neuro-ICU encounter, a patient has had hypernatremia for several days and is hemodynamically stable. How should the free-water deficit generally be corrected?

- A. Use bicarbonate as the sole fluid
- B. Gradually, with serial sodium monitoring
- C. Avoid all free water
- D. Normalize sodium within minutes
- E. Give hypertonic saline

246. In a separate neuro-ICU encounter, a patient with an external ventricular drain develops fever, worsening mental status, and inflammatory CSF with a positive culture. Which diagnosis is most likely?

- A. Uncomplicated SAH vasospasm
- B. Myasthenic crisis
- C. Central diabetes insipidus
- D. Healthcare-associated ventriculitis
- E. Acute peripheral neuropathy

247. In a separate clinical scenario, laboratory values are sodium 140, chloride 104, and bicarbonate 14 mEq/L. What is the calculated anion gap, excluding potassium?

- A. 22 mEq/L
- B. 8 mEq/L
- C. 118 mEq/L

D. 14 mEq/L

E. 36 mEq/L

248. In a separate clinical scenario, a febrile patient with confusion and temporal-lobe seizures has CSF lymphocytic pleocytosis with relatively preserved glucose. Which diagnostic test is especially important when herpes simplex encephalitis is suspected?

A. Bone marrow biopsy

B. Skin prick testing

C. Serum D-dimer only

D. CSF HSV PCR testing

E. Routine stool culture

249. Following severe traumatic brain injury, a patient has recurrent episodes of tachycardia, hypertension, hyperthermia, diaphoresis, and extensor posturing triggered by stimulation. Which diagnosis best fits?

A. Neuroleptic malignant syndrome

B. Myxedema coma with hypothermia

C. Paroxysmal sympathetic hyperactivity

D. Autonomic dysreflexia after spinal injury

E. Central fever after severe brain injury

250. In another case, immediately after a witnessed large-volume gastric aspiration, a patient becomes hypoxemic with bilateral infiltrates. Which initial diagnosis is most likely?

A. Chronic interstitial lung disease

B. Ventilator-associated pneumonia present before intubation

C. Pulmonary embolism by definition

D. Chemical aspiration pneumonitis

E. Cardiogenic edema in every case

251. In a separate clinical scenario, minutes after a catastrophic subarachnoid hemorrhage, a patient develops acute pulmonary edema without evidence of volume overload. Which mechanism is most likely?

- A. Isolated upper-airway obstruction only
- B. Chronic nephrotic syndrome
- C. Primary bacterial pneumonia
- D. Pulmonary edema from a sympathetic surge
- E. Pulmonary fibrosis

252. In a separate neuro-ICU encounter, a patient with a brain metastasis has progressive focal deficits and extensive vasogenic edema around the lesion. Which medication is commonly used for symptomatic tumor-related edema?

- A. Nimodipine
- B. Desmopressin
- C. Dexamethasone
- D. Protamine
- E. Flumazenil

253. In a separate neuro-ICU encounter, a patient is being evaluated for death by neurologic criteria after a catastrophic brain injury. What must be established before the neurologic examination is interpreted?

- A. Any sedative concentration is acceptable
- B. Core hypothermia should be present
- C. The cause of coma need not be known
- D. Severe hypotension improves test validity
- E. Known permanent brain injury with confounders excluded

254. In a separate neuro-ICU encounter, a patient with aneurysmal subarachnoid hemorrhage develops transient apical left-ventricular dysfunction and modest troponin elevation. Which diagnosis is most likely?

- A.** Chronic constrictive pericarditis
- B.** Hypertrophic cardiomyopathy from birth
- C.** Isolated right-to-left shunt
- D.** End-stage valvular stenosis
- E.** Stress-induced cardiomyopathy

255. In a different hospitalization, several days after CAR-T therapy, a patient develops aphasia, confusion, tremor, and seizures. Which syndrome is most likely?

- A.** Herpes simplex encephalitis
- B.** Immune effector cell-associated neurotoxicity
- C.** Cerebral venous sinus thrombosis
- D.** Posterior reversible encephalopathy syndrome
- E.** Nonconvulsive status epilepticus

256. In a separate neuro-ICU encounter, a patient with atrial fibrillation and rapid ventricular response becomes hypotensive and develops pulmonary edema. What is the preferred immediate rhythm intervention?

- A.** Observe without treatment
- B.** Synchronized cardioversion
- C.** Unsynchronized defibrillation for a perfusing rhythm
- D.** Adenosine as definitive AF therapy
- E.** Oral beta-blocker only

257. A new monitoring strategy improves a laboratory surrogate endpoint but has not been shown to improve mortality or functional outcome. What is the most appropriate interpretation?

- A.** Statistical significance always equals clinical importance
- B.** Mechanistic plausibility eliminates the need for outcome data
- C.** Surrogate improvement does not prove patient-centered benefit
- D.** A surrogate endpoint can never be useful
- E.** Any surrogate improvement proves lower mortality

258. In a separate case, during massive transfusion, a patient develops hypotension, prolonged QT interval, and low ionized calcium. What is the likely mechanism?

- A.** Respiratory acidosis alone
- B.** Excess vitamin D
- C.** Hyperaldosteronism
- D.** Iron deficiency from one transfusion
- E.** Citrate-mediated hypocalcemia

259. In a separate clinical scenario, a child with sickle cell disease develops an acute focal neurologic deficit consistent with ischemic stroke. Which disease-specific treatment should be urgently considered?

- A.** Routine platelet transfusion only
- B.** Long-term iron supplementation as acute reperfusion
- C.** Urgent transfusion, often exchange transfusion
- D.** No disease-specific therapy
- E.** Delay transfusion until recovery

260. In a separate case, during a properly prepared apnea test for death by neurologic criteria, the patient develops severe hypotension and hypoxemia. What is the appropriate response?

- A.** Ignore oxygenation because only PaCO₂ matters

- B.** Give a paralytic and restart without stabilization
- C.** Declare the test positive immediately without criteria
- D.** Abort, stabilize, and use an accepted alternative if needed
- E.** Continue regardless of instability

261. In a separate clinical scenario, a septic patient has diffuse bleeding, thrombocytopenia, prolonged PT, low fibrinogen, and markedly elevated D-dimer. Which diagnosis is most likely?

- A.** Uncomplicated iron deficiency
- B.** Disseminated intravascular coagulation
- C.** Thrombotic thrombocytopenic purpura
- D.** Factor XII deficiency alone
- E.** Isolated immune thrombocytopenia

262. In a separate clinical scenario, a solid-organ transplant recipient taking tacrolimus develops severe hypertension, seizures, and posterior vasogenic edema. Which diagnosis is most likely?

- A.** Guillain-Barré syndrome
- B.** Epidural hematoma
- C.** Spinal shock
- D.** Tacrolimus-associated PRES
- E.** Myxedema coma

263. In a separate neuro-ICU encounter, a patient has thrombocytopenia, microangiopathic hemolytic anemia, fluctuating neurologic deficits, and normal coagulation studies. What treatment should be initiated urgently when TTP is strongly suspected?

- A.** Urgent plasma exchange plus immunosuppression
- B.** Vitamin K only
- C.** Platelet transfusion as sole definitive treatment

D. Heparin thrombolysis

E. Wait for ADAMTS13 results before treating

264. Following carotid revascularization, a patient develops severe ipsilateral headache, hypertension, seizures, and focal neurologic symptoms without a new occlusion. Which complication is most likely?

A. Myxedema coma

B. Spinal shock

C. Hyperperfusion syndrome

D. Central diabetes insipidus

E. Guillain-Barré syndrome

265. In a separate clinical scenario, a ventilated patient with severe asthma develops hypotension, high peak pressures, and expiratory flow that does not return to zero before the next breath. What ventilator problem is most likely?

A. Isolated metabolic alkalosis

B. Central apnea

C. Pulmonary fibrosis with low compliance only

D. Severe circuit leak causing no airway pressure

E. Dynamic hyperinflation with intrinsic PEEP

266. In a separate clinical scenario, a young adult develops unilateral neck pain, partial Horner syndrome, and then a hemispheric ischemic stroke. Which vascular diagnosis is most likely?

A. Aneurysmal SAH

B. Primary intracerebral hemorrhage

C. Dural arteriovenous fistula

D. Cervical carotid artery dissection

E. Cerebral venous sinus thrombosis

267. In a separate neuro-ICU encounter, a patient with fulminant hepatic failure develops worsening encephalopathy and signs of cerebral edema. Which physiologic problem is a major neurocritical concern?

- A.** Bacterial meningitis in every case
- B.** Hyperammonemia-associated cerebral edema
- C.** Pure spinal shock
- D.** Isolated chronic peripheral neuropathy
- E.** Hypercalcemia from parathyroid excess

268. In a separate clinical scenario, a hypotensive ventilated patient has unclear shock physiology. Bedside ultrasound shows a large pericardial effusion with right-sided chamber collapse. What diagnosis is most strongly supported?

- A.** Isolated cerebral vasospasm
- B.** Central diabetes insipidus
- C.** Cardiac tamponade
- D.** Status epilepticus
- E.** Simple distributive shock

269. A patient remains comatose 72 hours after rewarming from targeted temperature management following cardiac arrest. Sedating medications have been cleared and no major metabolic confounder is present. Which principle should guide neurologic prognostication?

- A.** Withdraw support immediately for any absent corneal reflex in the first hours
- B.** Delayed multimodal prognostication after confounder clearance
- C.** Use a single biomarker as the sole determinant
- D.** Assume persistent coma at 24 hours proves a poor outcome
- E.** Base prognosis on the admission motor response alone

270. In a separate clinical scenario, an older neuro-ICU patient has fluctuating inattention without a new focal lesion. Which strategy best reduces modifiable delirium risk?

- A.** Sleep, mobility, orientation, and minimize sedatives
- B.** Use deep benzodiazepine sedation routinely
- C.** Avoid hearing aids and glasses
- D.** Eliminate day-night cues
- E.** Immobilize the patient continuously

Answers

- 1. A.** When P2 exceeds P1, compensatory intracranial reserve is reduced and compliance is poor. The waveform should be interpreted with the clinical examination and absolute ICP.
- 2. E.** Reliable neuroprognostication after cardiac arrest requires adequate time, clearance of confounders, and concordant multimodal data rather than an early single finding.
- 3. B.** Fresh intracranial blood is typically hyperdense on noncontrast CT, making CT the rapid first-line study when acute hemorrhage is suspected.
- 4. A.** CPP is calculated as MAP minus ICP, so $88 - 18 = 70$ mm Hg.
- 5. B.** Diffuse toxic-metabolic disturbances and drug accumulation commonly cause coma. Reversible contributors should be sought and corrected while structural causes are excluded.
- 6. E.** Chronic hypertension can shift the autoregulatory range toward higher pressures, so abrupt large reductions may compromise cerebral perfusion.
- 7. D.** Intracranial air that produces mass effect and neurologic deterioration is tension pneumocephalus, a neurosurgical emergency rather than routine postoperative pneumocephalus.
- 8. E.** When flow falls but metabolism persists, the brain can initially increase oxygen extraction to preserve oxygen metabolism.
- 9. A.** PRES commonly presents with seizures, encephalopathy, headache, and visual symptoms with vasogenic edema; treatment targets the precipitating cause and controlled blood-pressure reduction.
- 10. E.** CSF is produced largely by the choroid plexus and is absorbed primarily through arachnoid granulations into the dural venous sinuses.

- 11. E.** Acute cerebral ischemia commonly produces restricted water diffusion and high signal on DWI early after symptom onset.
- 12. A.** A unilateral fixed pupil with declining consciousness in a patient with mass effect suggests transtentorial herniation and requires immediate temporizing ICP therapy plus urgent definitive management.
- 13. E.** Lowering PaCO₂ causes cerebral vasoconstriction and can rapidly reduce cerebral blood volume and ICP. It is a short-term bridge because excessive or prolonged hypocapnia can worsen ischemia.
- 14. D.** Goal-concordant neurocritical care combines clear medical recommendations with the patient's values, acceptable outcomes, and transparent discussion of prognostic uncertainty.
- 15. E.** Mannitol can lower ICP but induces osmotic diuresis, which may worsen hypotension or volume depletion and requires renal/osmolality monitoring.
- 16. B.** For eligible patients with disabling ischemic stroke and LVO, IV thrombolysis should not be delayed when indicated, and evaluation for mechanical thrombectomy should proceed in parallel.
- 17. C.** Hypertonic saline can reduce cerebral edema while expanding intravascular volume and correcting hyponatremia; sodium and osmolality must be monitored.
- 18. B.** True restricted diffusion generally appears bright on DWI and low on ADC; this combination helps separate restriction from T2 shine-through.
- 19. E.** Malignant hemispheric infarction can cause fatal swelling. Timely decompressive hemicraniectomy reduces mortality in appropriately selected patients.
- 20. D.** Propofol lowers cerebral metabolic demand and can help control ICP, but hypotension may reduce CPP. Prolonged high-dose therapy also raises concern for propofol infusion syndrome.
- 21. E.** Dexmedetomidine can provide cooperative, arousable sedation with relatively little respiratory depression, facilitating examination in selected patients.
- 22. C.** Basilar artery occlusion can be devastating, and current acute stroke practice supports urgent endovascular evaluation for appropriately selected patients.
- 23. B.** DWI-FLAIR mismatch can identify patients whose tissue characteristics suggest relatively recent ischemia when clock time is uncertain; treatment still depends on the full eligibility assessment.
- 24. B.** Etomidate is often chosen when hemodynamic stability is a priority, although adrenal suppression is an important pharmacologic concern.
- 25. D.** Early ICH care includes rapid identification and reversal of anticoagulant effect when appropriate and avoidance of large BP variability with controlled treatment.

- 26. A.** Contemporary neurocritical care does not consider ketamine absolutely contraindicated solely for elevated ICP; its hemodynamic profile can be useful in selected hypotensive patients.
- 27. B.** Acute deterioration after cranial surgery requires rapid imaging for hemorrhage, edema, hydrocephalus, infarction, and other treatable complications.
- 28. E.** After established denervation injury, extrajunctional acetylcholine receptor upregulation can make succinylcholine provoke life-threatening hyperkalemia.
- 29. E.** Cerebellar hemorrhage with neurologic deterioration, brainstem compression, or obstructive hydrocephalus is a neurosurgical emergency.
- 30. B.** Neuromuscular blockade suppresses visible motor activity but does not treat cortical seizures. EEG monitoring may be essential when examination is obscured.
- 31. B.** Blood-degradation products create susceptibility effects, so GRE and especially SWI are useful for detecting microbleeds and superficial siderosis.
- 32. A.** An EVD provides urgent CSF diversion and ICP monitoring for clinically significant acute hydrocephalus from intraventricular blood.
- 33. B.** Naloxone reverses opioid effects and should be titrated toward adequate ventilation while airway and supportive care are maintained.
- 34. C.** A valid applicable advance directive is an important expression of patient autonomy and should guide care unless a specific legal or clinical exception applies.
- 35. C.** Flumazenil can provoke seizures, especially with chronic benzodiazepine dependence or mixed proconvulsant ingestions, so use is highly selective.
- 36. B.** Early endovascular or surgical aneurysm securement reduces the risk of catastrophic rebleeding and enables subsequent SAH management.
- 37. D.** Nicardipine is a titratable intravenous dihydropyridine calcium-channel blocker commonly used for controlled BP reduction in neurologic emergencies.
- 38. B.** CTA rapidly depicts the cervical and intracranial arterial lumen and is widely used to identify large-vessel occlusion during acute stroke evaluation.
- 39. D.** Enteral nimodipine is a standard component of aneurysmal SAH care because it improves neurologic outcomes related to delayed ischemic injury.
- 40. E.** Clevidipine is an ultrashort-acting intravenous dihydropyridine calcium-channel blocker that permits rapid titration.

- 41. C.** Norepinephrine is the usual first-line vasopressor for septic vasodilatory shock because it reliably restores vascular tone and MAP.
- 42. E.** Delayed cerebral ischemia typically occurs several days after SAH and is a diagnosis made after excluding competing causes of neurologic deterioration.
- 43. C.** Phenylephrine is predominantly an alpha-1 agonist and can be useful in selected settings where tachycardia limits agents with beta activity.
- 44. C.** Perfusion imaging estimates hemodynamic tissue states and can help identify a mismatch between irreversibly injured core and potentially salvageable tissue.
- 45. D.** Anticoagulation is standard treatment for cerebral venous thrombosis, including many patients with hemorrhagic venous infarction, unless a specific contraindication exists.
- 46. C.** Low-dose vasopressin is commonly added as an adjunct in refractory vasodilatory shock rather than used as a neurologic-specific therapy.
- 47. A.** New focal deficits immediately after aneurysm clipping raise concern for vessel compromise, perforator injury, thrombosis, or infarction and warrant urgent vascular/brain imaging.
- 48. E.** Dobutamine is a beta-adrenergic inotrope used when augmenting cardiac output is needed and arterial pressure can tolerate it.
- 49. C.** Brain Trauma Foundation guidance recommends treating sustained ICP values above 22 mm Hg because higher levels are associated with increased mortality.
- 50. A.** Modern SAH care aims for euvolemia. Routine prophylactic hypervolemia can cause cardiopulmonary complications without proven benefit.
- 51. E.** Catheter angiography provides high spatial and temporal resolution and can transition directly from diagnosis to endovascular treatment.
- 52. A.** A lens-shaped extra-axial hematoma with a lucid interval is classic for epidural hemorrhage and can require urgent evacuation.
- 53. E.** VAP prevention bundles commonly include head-of-bed elevation, oral care, minimization of sedation when feasible, and assessment for liberation from ventilation.
- 54. A.** Code status and the broader treatment plan are distinct. DNR does not by itself mean 'do not treat' or require limitation of otherwise goal-concordant care.
- 55. E.** Lung-protective ventilation uses low tidal volumes based on predicted, not actual, body weight to reduce ventilator-induced lung injury.

- 56. A.** Acute subdural hematoma typically appears crescentic on CT and can produce major mass effect and herniation requiring urgent neurosurgical assessment.
- 57. D.** Plateau pressure obtained during an inspiratory hold approximates static alveolar pressure and is used to limit overdistension.
- 58. A.** Persistent impaired consciousness after convulsive seizures raises concern for nonconvulsive status epilepticus; continuous EEG is the key diagnostic modality.
- 59. C.** Rotational acceleration-deceleration can shear axons, producing prolonged coma and characteristic MRI lesions in the gray-white junction, corpus callosum, and brainstem.
- 60. C.** PEEP may affect venous return and ICP in some patients, but needed oxygenation should not be withheld categorically; effects on hemodynamics, ICP, and compliance should be monitored.
- 61. B.** CO₂ is a potent regulator of cerebrovascular tone. Hypercapnia dilates cerebral vessels and can increase cerebral blood volume and ICP.
- 62. E.** Secondary spinal cord ischemia can be worsened by hypotension; contemporary care emphasizes avoidance of low pressure and individualized perfusion support.
- 63. C.** Massive pulmonary embolism can cause acute RV pressure overload, reduced LV filling, and obstructive shock.
- 64. A.** Deep sedation and paralysis can obscure clinical seizures; cEEG allows treatment to be titrated to electrographic seizure control.
- 65. E.** Acute symptomatic hydrocephalus after SAH requires prompt CSF diversion, most commonly with an EVD.
- 66. E.** Septic shock management centers on early effective antimicrobials, source control, and hemodynamic resuscitation while cultures and diagnostics proceed.
- 67. A.** Fever, wound inflammation, and neurologic deterioration after cranial surgery require evaluation for wound infection, meningitis, ventriculitis, or intracranial collection.
- 68. A.** Loss of sympathetic tone after high spinal cord injury can produce vasodilation and bradycardia, the classic pattern of neurogenic shock.
- 69. B.** Suspected bacterial meningitis is an emergency. Empiric antibiotics should be given promptly; adjunctive dexamethasone is most effective when given before or with the first antibiotic dose in appropriate patients.
- 70. D.** Spinal shock is transient loss of reflexes and flaccid tone below an acute spinal cord lesion; it is distinct from the hemodynamic syndrome of neurogenic shock.

- 71. E.** EVD pressure and drainage depend on correct leveling to the prescribed anatomic reference. A system set too low can overdrain CSF.
- 72. B.** HSV encephalitis is treatable but destructive; empiric IV acyclovir should be started promptly when clinical suspicion is substantial.
- 73. B.** When feasible, early enteral nutrition supports gut integrity and is generally preferred over routine early parenteral feeding.
- 74. D.** Early neuroprognosis may be unreliable because of evolving injury and confounders. Communication should distinguish known facts from uncertainty and allow time when clinically appropriate.
- 75. E.** Insulin-driven intracellular shifts during refeeding commonly produce marked hypophosphatemia, often with potassium and magnesium depletion.
- 76. C.** Benzodiazepines are first-line emergency therapy for convulsive status epilepticus, followed promptly by a longer-acting antiseizure medication.
- 77. C.** Stress-ulcer prophylaxis is targeted to critically ill patients with meaningful bleeding risk rather than given indiscriminately.
- 78. A.** TCD provides a noninvasive bedside assessment of blood-flow velocity and is commonly used to trend for vasospasm after aneurysmal SAH.
- 79. C.** Refractory status epilepticus often requires continuous EEG-guided anesthetic therapy because visible motor activity may disappear while electrographic seizures continue.
- 80. E.** Intermittent pneumatic compression is an early VTE-prevention measure in immobile ICH patients while pharmacologic prophylaxis timing is individualized.
- 81. D.** Hyperthermia raises metabolic demand and can aggravate secondary injury. The cause should be investigated while temperature is controlled.
- 82. C.** Respiratory failure in GBS can progress rapidly. Serial vital capacity and inspiratory force, bulbar function, and clinical trajectory guide timely airway management.
- 83. A.** Shivering counteracts temperature control and markedly increases metabolic and oxygen demands; stepwise anti-shivering measures are used.
- 84. E.** PbtO₂ monitoring samples local tissue oxygen tension and may reveal regional oxygen supply-demand problems not apparent from systemic measures alone.
- 85. D.** IVIG and plasma exchange are established effective therapies for GBS; corticosteroids alone have not shown the same benefit.

- 86. C.** Central fever can occur after severe brain injury, but infection, drugs, thrombosis, and other causes must be evaluated before assigning the diagnosis.
- 87. E.** Persistent clear rhinorrhea after skull-base surgery suggests a CSF fistula and carries meningitis risk; confirmatory testing and surgical assessment may be needed.
- 88. D.** SIADH produces water retention with hypotonic hyponatremia and inappropriately concentrated urine in a clinically euvolemic patient.
- 89. A.** Myasthenic crisis requires respiratory support, treatment of triggers, and rapid immunomodulation with IVIG or plasma exchange. Drugs that worsen neuromuscular transmission should be avoided.
- 90. C.** Cerebral salt wasting is characterized by renal sodium loss and volume depletion; distinguishing it from SIADH matters because volume strategies differ.
- 91. B.** Multimodality monitoring is most informative when trends and relationships are integrated with examination, imaging, and systemic physiology.
- 92. B.** The combination of subacute psychiatric change, seizures, movement disorder, dysautonomia, and encephalopathy is characteristic of autoimmune encephalitis syndromes.
- 93. C.** Loss of antidiuretic hormone effect causes free-water loss, dilute urine, and hypernatremia; desmopressin and free-water replacement are used when appropriate.
- 94. A.** Palliative care addresses symptoms, communication, and goal alignment and can be integrated alongside active life-prolonging treatment.
- 95. C.** Adrenal crisis is life-threatening and requires prompt glucocorticoid replacement plus fluids and treatment of precipitating illness.
- 96. B.** Magnesium sulfate is the treatment of choice for eclamptic seizures and recurrence prevention while blood pressure and obstetric management are addressed.
- 97. E.** Thyroid storm requires rapid blockade of adrenergic effects and thyroid hormone synthesis/release; iodine is given after a thionamide to avoid providing substrate for new hormone synthesis.
- 98. D.** Electrodiagnostic testing can demonstrate demyelinating or axonal features of GBS and help support the clinical diagnosis.
- 99. B.** Myxedema coma requires urgent thyroid hormone replacement, supportive care, and empiric glucocorticoid therapy until adrenal insufficiency is excluded.
- 100. D.** Recurrent thunderclap headache with reversible segmental vasoconstriction is typical of RCVS; vasoactive triggers should be removed and complications assessed.

- 101. C.** Hyperosmolar hyperglycemic state requires volume resuscitation, electrolyte management, and insulin with controlled changes in effective osmolality.
- 102. E.** Pituitary apoplexy can cause acute ACTH deficiency and adrenal crisis; urgent glucocorticoids and neuro-ophthalmic/neurosurgical evaluation are central.
- 103. B.** Critical illness and AKI can substantially alter clearance; renally eliminated drugs require repeated dose review and, when useful, drug-level monitoring.
- 104. D.** A neutrophil-predominant pleocytosis with elevated protein and depressed CSF glucose strongly supports bacterial meningitis in the appropriate clinical context.
- 105. D.** ADEM is a typically monophasic inflammatory demyelinating syndrome with encephalopathy and multifocal deficits, often following infection.
- 106. B.** With ECG toxicity from hyperkalemia, IV calcium is given promptly to stabilize the cardiac membrane while potassium is shifted intracellularly and removed.
- 107. E.** An EVD set too low can overdrain CSF, promoting ventricular collapse, intracranial hypotension, and subdural hygroma or hematoma.
- 108. E.** Severe neurologic symptoms from hyponatremia warrant prompt controlled hypertonic saline to raise sodium enough to reverse cerebral edema while avoiding overcorrection.
- 109. A.** Spinal epidural abscess with neurologic deficits is an emergency requiring rapid imaging, antimicrobial therapy, and surgical evaluation for decompression.
- 110. B.** The brain adapts to sustained hyponatremia; overly rapid correction can promote cerebral edema, so correction is controlled and monitored.
- 111. B.** CSF HSV PCR is the key diagnostic test for HSV encephalitis, although early false-negative testing can occur and treatment should not await confirmation when suspicion is high.
- 112. A.** The anion gap is $\text{Na} - (\text{Cl} + \text{HCO}_3) = 140 - (104 + 14) = 22 \text{ mEq/L}$, indicating an elevated anion gap.
- 113. C.** Device-associated ventriculitis should be suspected with compatible fever, neurologic decline, and CSF microbiology; therapy includes appropriate antimicrobials and device management.
- 114. D.** Abrupt respiratory decline immediately after witnessed gastric aspiration is typical of chemical pneumonitis; secondary infection is assessed over time rather than assumed immediately.
- 115. A.** Ethically, there is no categorical distinction between not starting and later stopping a treatment when either choice is justified by the patient's goals, benefits, and burdens.

- 116. B.** Paroxysmal sympathetic hyperactivity causes episodic sympathetic and motor overactivity after severe acquired brain injury and is often stimulus-triggered.
- 117. A.** Acute brain injury can trigger a massive sympathetic discharge that increases pulmonary vascular pressures and permeability, producing neurogenic pulmonary edema.
- 118. E.** Death-by-neurologic-criteria testing requires a permanent catastrophic brain injury and careful exclusion of confounding drugs, metabolic derangements, hypothermia, and other reversible causes.
- 119. A.** Catecholamine-mediated stress cardiomyopathy can complicate SAH and may cause transient LV dysfunction, ECG changes, and biomarker elevation.
- 120. E.** Corticosteroids, particularly dexamethasone, reduce vasogenic edema and improve symptoms from many brain tumors; they are not routine therapy for cytotoxic stroke edema.
- 121. B.** Hemodynamic instability attributable to atrial fibrillation with rapid ventricular response warrants immediate synchronized cardioversion.
- 122. C.** ICANS is a recognized neurotoxicity after immune effector cell therapy and can cause encephalopathy, language dysfunction, seizures, and cerebral edema.
- 123. D.** Citrate load during massive transfusion can chelate calcium, producing clinically important ionized hypocalcemia that requires monitoring and replacement.
- 124. D.** Loss of autoregulatory reserve after carotid revascularization can produce hyperperfusion, headache, seizures, edema, and sometimes intracranial hemorrhage; careful BP control is central.
- 125. A.** Apnea testing must be conducted safely. Severe instability is a reason to stop; when the test cannot be completed or interpreted, ancillary testing may be required under the applicable guideline.
- 126. E.** DIC causes systemic coagulation activation with consumption of platelets and factors. Management targets the underlying cause and supports clinically significant bleeding/coagulopathy.
- 127. A.** Acute neurologic deficits in sickle cell disease require emergency stroke evaluation and rapid correction of sickling physiology with transfusion, often exchange transfusion.
- 128. B.** Suspected acquired TTP is a hematologic emergency; plasma exchange and immunosuppression should not be delayed for confirmatory ADAMTS13 testing.
- 129. B.** Calcineurin inhibitors can contribute to PRES, particularly with hypertension or renal dysfunction; management includes seizure control, blood-pressure treatment, and adjustment of the offending immunosuppression.
- 130. E.** Insufficient expiratory time in severe airflow obstruction causes air trapping and auto-PEEP, which can impair venous return and cause hypotension.

- 131. A.** Focused cardiac ultrasound can rapidly identify pericardial effusion with chamber collapse, a pattern strongly concerning for tamponade in a shocked patient.
- 132. E.** Acute liver failure can produce hyperammonemia, astrocyte swelling, cerebral edema, and intracranial hypertension; airway, perfusion, osmotic status, and transplant evaluation are central.
- 133. B.** Neck pain or headache followed by partial Horner syndrome and cerebral ischemia is a classic presentation of cervical carotid dissection.
- 134. C.** Multicomponent nonpharmacologic measures and minimization of unnecessary sedatives are core delirium-prevention strategies.
- 135. A.** Reliable neuroprognostication after cardiac arrest requires adequate time, clearance of confounders, and concordant multimodal data rather than an early single finding.
- 136. A.** Disputes about potentially inappropriate or nonbeneficial treatment are best addressed through transparent institutional processes, second opinions, ethics consultation, and careful communication.
- 137. B.** When P2 exceeds P1, compensatory intracranial reserve is reduced and compliance is poor. The waveform should be interpreted with the clinical examination and absolute ICP.
- 138. C.** Fresh intracranial blood is typically hyperdense on noncontrast CT, making CT the rapid first-line study when acute hemorrhage is suspected.
- 139. B.** CPP is calculated as MAP minus ICP, so $88 - 18 = 70$ mm Hg.
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- 154. A.** Propofol lowers cerebral metabolic demand and can help control ICP, but hypotension may reduce CPP. Prolonged high-dose therapy also raises concern for propofol infusion syndrome.
- 155. D.** Basilar artery occlusion can be devastating, and current acute stroke practice supports urgent endovascular evaluation for appropriately selected patients.
- 156. E.** When patient preferences are known, a surrogate should use substituted judgment; the best-interest standard is used when preferences cannot be reasonably inferred.
- 157. A.** Dexmedetomidine can provide cooperative, arousable sedation with relatively little respiratory depression, facilitating examination in selected patients.
- 158. B.** DWI-FLAIR mismatch can identify patients whose tissue characteristics suggest relatively recent ischemia when clock time is uncertain; treatment still depends on the full eligibility assessment.
- 159. B.** Etomidate is often chosen when hemodynamic stability is a priority, although adrenal suppression is an important pharmacologic concern.
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- 175. B.** Delayed cerebral ischemia typically occurs several days after SAH and is a diagnosis made after excluding competing causes of neurologic deterioration.

- 176. D.** Norepinephrine is the usual first-line vasopressor for septic vasodilatory shock because it reliably restores vascular tone and MAP.
- 177. E.** Donation after circulatory death is distinct from donation after neurologic determination of death and must follow established separation-of-decision, consent, and death-determination protocols.
- 178. E.** Phenylephrine is predominantly an alpha-1 agonist and can be useful in selected settings where tachycardia limits agents with beta activity.
- 179. B.** Anticoagulation is standard treatment for cerebral venous thrombosis, including many patients with hemorrhagic venous infarction, unless a specific contraindication exists.
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- 195. B.** Secondary spinal cord ischemia can be worsened by hypotension; contemporary care emphasizes avoidance of low pressure and individualized perfusion support.
- 196. A.** CO₂ is a potent regulator of cerebrovascular tone. Hypercapnia dilates cerebral vessels and can increase cerebral blood volume and ICP.
- 197. A.** After death determination and authorization, donor management focuses on maintaining oxygenation, perfusion, temperature, and metabolic stability to preserve transplantable organs.
- 198. E.** Massive pulmonary embolism can cause acute RV pressure overload, reduced LV filling, and obstructive shock.
- 199. A.** Acute symptomatic hydrocephalus after SAH requires prompt CSF diversion, most commonly with an EVD.
- 200. C.** Deep sedation and paralysis can obscure clinical seizures; cEEG allows treatment to be titrated to electrographic seizure control.
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- 205. E.** Spinal shock is transient loss of reflexes and flaccid tone below an acute spinal cord lesion; it is distinct from the hemodynamic syndrome of neurogenic shock.

- 206. D.** HSV encephalitis is treatable but destructive; empiric IV acyclovir should be started promptly when clinical suspicion is substantial.
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- 215. D.** Respiratory failure in GBS can progress rapidly. Serial vital capacity and inspiratory force, bulbar function, and clinical trajectory guide timely airway management.
- 216. E.** Hyperthermia raises metabolic demand and can aggravate secondary injury. The cause should be investigated while temperature is controlled.
- 217. C.** Research involving incapacitated patients must follow applicable regulations, IRB-approved consent procedures, and surrogate authorization when permitted; clinical consent and research consent are distinct.
- 218. E.** Shivering counteracts temperature control and markedly increases metabolic and oxygen demands; stepwise anti-shivering measures are used.
- 219. A.** IVIG and plasma exchange are established effective therapies for GBS; corticosteroids alone have not shown the same benefit.
- 220. D.** PbtO₂ monitoring samples local tissue oxygen tension and may reveal regional oxygen supply-demand problems not apparent from systemic measures alone.

- 221. B.** Central fever can occur after severe brain injury, but infection, drugs, thrombosis, and other causes must be evaluated before assigning the diagnosis.
- 222. E.** Myasthenic crisis requires respiratory support, treatment of triggers, and rapid immunomodulation with IVIG or plasma exchange. Drugs that worsen neuromuscular transmission should be avoided.
- 223. A.** SIADH produces water retention with hypotonic hyponatremia and inappropriately concentrated urine in a clinically euvolemic patient.
- 224. C.** Persistent clear rhinorrhea after skull-base surgery suggests a CSF fistula and carries meningitis risk; confirmatory testing and surgical assessment may be needed.
- 225. A.** Cerebral salt wasting is characterized by renal sodium loss and volume depletion; distinguishing it from SIADH matters because volume strategies differ.
- 226. D.** The combination of subacute psychiatric change, seizures, movement disorder, dysautonomia, and encephalopathy is characteristic of autoimmune encephalitis syndromes.
- 227. E.** Multimodality monitoring is most informative when trends and relationships are integrated with examination, imaging, and systemic physiology.
- 228. E.** Loss of antidiuretic hormone effect causes free-water loss, dilute urine, and hypernatremia; desmopressin and free-water replacement are used when appropriate.
- 229. A.** Magnesium sulfate is the treatment of choice for eclamptic seizures and recurrence prevention while blood pressure and obstetric management are addressed.
- 230. C.** Adrenal crisis is life-threatening and requires prompt glucocorticoid replacement plus fluids and treatment of precipitating illness.
- 231. E.** Thyroid storm requires rapid blockade of adrenergic effects and thyroid hormone synthesis/release; iodine is given after a thionamide to avoid providing substrate for new hormone synthesis.
- 232. D.** Recurrent thunderclap headache with reversible segmental vasoconstriction is typical of RCVS; vasoactive triggers should be removed and complications assessed.
- 233. C.** Electrodiagnostic testing can demonstrate demyelinating or axonal features of GBS and help support the clinical diagnosis.
- 234. C.** Myxedema coma requires urgent thyroid hormone replacement, supportive care, and empiric glucocorticoid therapy until adrenal insufficiency is excluded.
- 235. A.** Pituitary apoplexy can cause acute ACTH deficiency and adrenal crisis; urgent glucocorticoids and neuro-ophthalmic/neurosurgical evaluation are central.

- 236. B.** Hyperosmolar hyperglycemic state requires volume resuscitation, electrolyte management, and insulin with controlled changes in effective osmolality.
- 237. D.** PDSA is an iterative quality-improvement framework in which teams test changes, measure performance, learn from results, and refine the intervention.
- 238. C.** Critical illness and AKI can substantially alter clearance; renally eliminated drugs require repeated dose review and, when useful, drug-level monitoring.
- 239. B.** ADEM is a typically monophasic inflammatory demyelinating syndrome with encephalopathy and multifocal deficits, often following infection.
- 240. E.** A neutrophil-predominant pleocytosis with elevated protein and depressed CSF glucose strongly supports bacterial meningitis in the appropriate clinical context.
- 241. E.** With ECG toxicity from hyperkalemia, IV calcium is given promptly to stabilize the cardiac membrane while potassium is shifted intracellularly and removed.
- 242. C.** Spinal epidural abscess with neurologic deficits is an emergency requiring rapid imaging, antimicrobial therapy, and surgical evaluation for decompression.
- 243. A.** Severe neurologic symptoms from hyponatremia warrant prompt controlled hypertonic saline to raise sodium enough to reverse cerebral edema while avoiding overcorrection.
- 244. E.** An EVD set too low can overdrain CSF, promoting ventricular collapse, intracranial hypotension, and subdural hygroma or hematoma.
- 245. B.** The brain adapts to sustained hypernatremia; overly rapid correction can promote cerebral edema, so correction is controlled and monitored.
- 246. D.** Device-associated ventriculitis should be suspected with compatible fever, neurologic decline, and CSF microbiology; therapy includes appropriate antimicrobials and device management.
- 247. A.** The anion gap is $\text{Na} - (\text{Cl} + \text{HCO}_3) = 140 - (104 + 14) = 22 \text{ mEq/L}$, indicating an elevated anion gap.
- 248. D.** CSF HSV PCR is the key diagnostic test for HSV encephalitis, although early false-negative testing can occur and treatment should not await confirmation when suspicion is high.
- 249. C.** Paroxysmal sympathetic hyperactivity causes episodic sympathetic and motor overactivity after severe acquired brain injury and is often stimulus-triggered.
- 250. D.** Abrupt respiratory decline immediately after witnessed gastric aspiration is typical of chemical pneumonitis; secondary infection is assessed over time rather than assumed immediately.

- 251. D.** Acute brain injury can trigger a massive sympathetic discharge that increases pulmonary vascular pressures and permeability, producing neurogenic pulmonary edema.
- 252. C.** Corticosteroids, particularly dexamethasone, reduce vasogenic edema and improve symptoms from many brain tumors; they are not routine therapy for cytotoxic stroke edema.
- 253. E.** Death-by-neurologic-criteria testing requires a permanent catastrophic brain injury and careful exclusion of confounding drugs, metabolic derangements, hypothermia, and other reversible causes.
- 254. E.** Catecholamine-mediated stress cardiomyopathy can complicate SAH and may cause transient LV dysfunction, ECG changes, and biomarker elevation.
- 255. B.** ICANS is a recognized neurotoxicity after immune effector cell therapy and can cause encephalopathy, language dysfunction, seizures, and cerebral edema.
- 256. B.** Hemodynamic instability attributable to atrial fibrillation with rapid ventricular response warrants immediate synchronized cardioversion.
- 257. C.** Surrogate outcomes can be informative, but they may not reliably predict outcomes important to patients. Evidence should be judged by study design, effect size, precision, and clinical relevance.
- 258. E.** Citrate load during massive transfusion can chelate calcium, producing clinically important ionized hypocalcemia that requires monitoring and replacement.
- 259. C.** Acute neurologic deficits in sickle cell disease require emergency stroke evaluation and rapid correction of sickling physiology with transfusion, often exchange transfusion.
- 260. D.** Apnea testing must be conducted safely. Severe instability is a reason to stop; when the test cannot be completed or interpreted, ancillary testing may be required under the applicable guideline.
- 261. B.** DIC causes systemic coagulation activation with consumption of platelets and factors. Management targets the underlying cause and supports clinically significant bleeding/coagulopathy.
- 262. D.** Calcineurin inhibitors can contribute to PRES, particularly with hypertension or renal dysfunction; management includes seizure control, blood-pressure treatment, and adjustment of the offending immunosuppression.
- 263. A.** Suspected acquired TTP is a hematologic emergency; plasma exchange and immunosuppression should not be delayed for confirmatory ADAMTS13 testing.
- 264. C.** Loss of autoregulatory reserve after carotid revascularization can produce hyperperfusion, headache, seizures, edema, and sometimes intracranial hemorrhage; careful BP control is central.
- 265. E.** Insufficient expiratory time in severe airflow obstruction causes air trapping and auto-PEEP, which can impair venous return and cause hypotension.

266. D. Neck pain or headache followed by partial Horner syndrome and cerebral ischemia is a classic presentation of cervical carotid dissection.

267. B. Acute liver failure can produce hyperammonemia, astrocyte swelling, cerebral edema, and intracranial hypertension; airway, perfusion, osmotic status, and transplant evaluation are central.

268. C. Focused cardiac ultrasound can rapidly identify pericardial effusion with chamber collapse, a pattern strongly concerning for tamponade in a shocked patient.

269. B. Neuroprognostication after cardiac arrest should be delayed until an appropriate interval after return to normothermia and clearance of major confounders, then based on concordant multimodal evidence rather than a single examination sign or test.

270. A. Multicomponent nonpharmacologic measures and minimization of unnecessary sedatives are core delirium-prevention strategies.