

# Knowledge Multiple Choice Test

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Q0 Please enter your Alpha-Numeric Assigned Code

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Q1 1. Based on the ASA/AHA guidelines, the door to needle goal time for acute ischemic strokes is:

- A. 30 mins
  - B. 45 mins
  - C. 60 mins
  - D. 90 mins
- 

Q2 2. For acute ischemic stroke, the goal door to CT time is:

- A. 10 mins
  - B. 20 mins
  - C. 30 mins
  - D. 45 mins
-

Q3 3. A patient presents in coma. An acute stroke is being considered, how should the NIHSS item for "Best Gaze" be assessed?

- A. The patient should be scored a 2-"forced deviation" unless the gaze is clearly midline
  - B. The patient should be assessed with oculocephalic testing. If the eyes are able to cross midline in both directions the patient should be given a 1-"partial gaze paresis" since you cannot test voluntary movement
  - C. The patient should be assessed with oculocephalic testing. If the eyes cross midline in both directions the patient should be given a 0- normal.
  - D. This patient should not receive a score
- 

Q4 4. While doing the NIHSS, a patient is tested for a visual defect and counts fingers when they are held in all four quadrants of both eyes. The same patient is then asked to count fingers held in different quadrants of vision. He reports correctly that two fingers are held in the right field of gaze, but neglects to count the 2 fingers simultaneously held in the left field of gaze. This patient should be scored what number for "Visual"

- A. Normal
  - B. Partial hemianopia
  - C. Complete hemianopia
  - D. Bilateral hemianopia
-

Q5 5. A patient is plegic in the arm and leg on the right side. As such, he cannot participate in finger-nose-finger or heel-shin testing on that side for the NIHSS. The left side is normal. How should they be scored for ataxia.

- A. 0- Normal because no ataxia is observed
  - B. 1-Ataxia of one limb, because underlying ataxia cannot be excluded on the plegic arm
  - C. 2- Ataxia of two limbs, because underlying ataxia cannot be excluded in either the right arm or leg
  - D. They should not be scored on this task
- 

Q6 6. A right-handed patient has a severe dementia and her communication is limited. Family brought her in for new left sided weakness and neglect. She does not describe the stroke card and does not name any objects. How should she be scored for language

- A. 0-normal, because she is at her baseline and the rest of her stroke scale is suggestive of a Right not L MCA syndrome
  - B. 1-mild-to-moderate aphasia because she does not name the cards
  - C. 2-severe aphasia, because her communication is impaired but not worse than baseline and likely not attributable to what appears to be a R MCA syndrome
  - D. 3-mute because she makes no verbal output
- 

Q7 7. A patient is marked as being mute (globally aphasic) in language testing, which score should they be assigned for dysarthria

- A. 0-Normal, because no dysarthria is observed
  - B. 2-Severe dysarthria, because the patient cannot speak
  - C. It should be left blank
-

Q8 8. Which direction of gaze is expected in this patient?

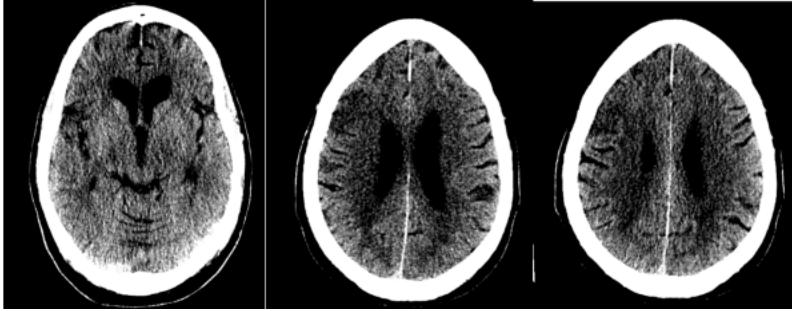
- A. Right
  - B. Left
  - C. Direction Changing
  - D. Forced downgaze
- 

Q9 9. What laboratory result[s] is/are mandatory before the infusion of tPA in any case?

- A. Blood glucose only
  - B. Blood glucose and troponin
  - C. INR only
  - D. Platelets count only
- 

Q10 10. The correct systolic and diastolic cutoffs before proceeding with tPA are

- A. 180/105
  - B. 185/110
  - C. 190/115
  - D. 200/120
-



Q11

11. The ASPECT Score for this scan is:

- A. 10
  - B. 8
  - C. 6
  - D. 4
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Q12 12. Correct dosing for alteplase tPA is:

- A. 0.9mg/kg, max dose 80 mg over 60 mins with initial 20% given as a bolus over 1 min
  - B. 0.9mg/kg Ideal Body Weight, max dose 90 mg over 60 mins with initial 10% of dose given as a bolus over 1 min
  - C. 0.9mg/kg, max dose 90 mg over 60 mins with initial 10% of dose given as a bolus over 1 min
  - D. 0.9mg/kg, max dose of 100mg given over 60 mins
-

Q13 13. The correct dose for tenecteplase (TNK) is:

- A. 0.4 mg/kg infusion over 1 hour
  - B. 0.25 mg/kg up to 25 mg IV push
  - C. 0.9 mg/kg up to 90 mg IV push
  - D. 30-50mg based on weight, IV push
- 

Q14 14. Which of the following patients is eligible to receive tPA/TNK if last seen well is within 3 hours?

- A. A patient on rivaroxaban who is >16 but
  - B. A patient who received a treatment dose of LMWH within the last 24 hours
  - C. A patient on Warfarin whose INR is 1.5
  - D. A patient with cirrhosis whose platelet count is 50,000
- 

Q15 15. The mechanism of action of tPA is

- A. Converts plasminogen to plasmin
  - B. Decreases fibrinolysis
  - C. Directly inhibits thrombin
  - D. Inhibits factor Xa
-

Q16 16. The following arteries are defined as Large Vessel Occlusions (LVO)?

- A. ICA, M1, Basilar, M2
  - B. ICA and M1 only
  - C. ICA only
  - D. ICA, Basilar, M1
- 

Q17 17. A patient presents within 6 hours of last seen well, Class IA evidence exists for mechanical thrombectomy in which patient:

- A. A patient with an NIHSS of 6 with an occlusion of the M1 segment of the MCA
  - B. A patient with an NIHSS of 8 with an occlusion of the M2 segment of the MCA
  - C. A patient with an NIHSS of 12 with a top of the basilar occlusion
  - D. A patient with an NIHSS score of 12 who baseline mRS is 2 with an internal carotid artery occlusion
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Q18 18. A patient is treated with tPA. 5 hours later they develop worsening neurologic symptoms and vomiting. STAT NCHCT is performed and demonstrates a hemorrhage within the stroke bed. Which of the following is correct?

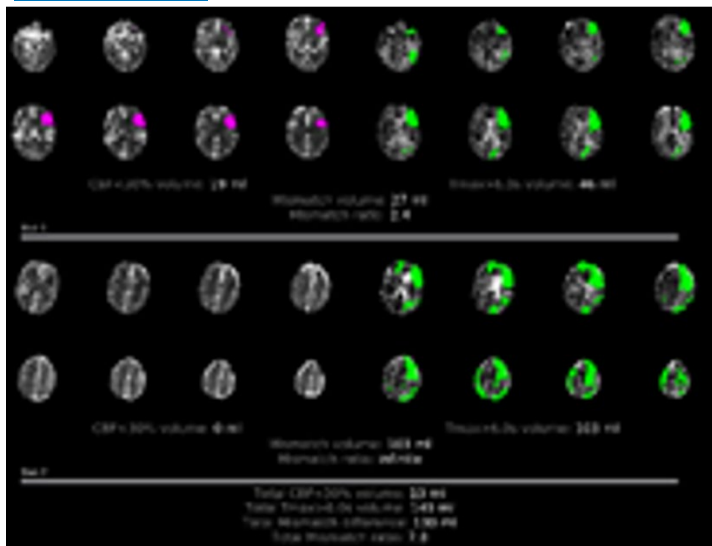
- A. Give cryoprecipitate 10U infused over 10-30 mins if fibrinogen level is
  - B. Give cryoprecipitate 10U infused over 10-30 mins and tranexamic acid 1000mg IV
  - C. Give cryoprecipitate 10U and tranexamic acid 1000mg IV if fibrinogen level is
  - D. Give Cryoprecipitate 10U and DDAVP 0.4mcg/kg
-

Q19 19. A patient who was last seen well 2 hours prior presents to the ED with acute onset left sided weakness and a right gaze preference, prior to the head CT, blood pressure goals should be?

- A.
  - B.
  - C.
  - D. Blood pressure should not be adjusted until pathology is established
- 

Q20 20. A patient was last seen the night prior at 11pm. At 8 AM he arrives to the ED and stat CT/CTA/CTP is obtained. CTA confirms an LVO. Based on this CTP, is the patient a good candidate for thrombectomy?

[Perfusion scan](#)



- Yes
  - No
- 

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Q21 21. The medicine team consults you for a patient that has started seizing. You arrive about 5 mins after the seizure started and find that the patient still has rhythmic, tonic-clonic movements. Which of the following is the most appropriate initial therapy?

- A. IV midazolam 10mg
  - B. IV lorazepam 0.1mg/kg, max 4mg
  - C. IM midazolam 0.1mg/kg, max 3mg
  - D. IV lorazepam 1mg
- 

22. A patient presents to the ED after a witnessed seizure at home. While in the ambulance the patient has another GTC lasting about 3 mins despite being loaded with the appropriate dose of IM midazolam by EMS. On your exam the patient is not able to follow commands or answer any questions. All of the following would be appropriate next steps except:

- A. IV levetiracetam 60mg/kg, max 2000 mg/dose
  - B. IV fosphenytoin 20mg PE/kg, max 1500mg PE/dose
  - C. IV valproic acid 40mg/kg, max 3000 mg/dose
  - D. IV phenobarbital 15mg/kg
- 

Q23 23. Which of the following patients should not be loaded with Valproic Acid as a first line treatment?

- A. A patient with a GFR < 40
  - B. A patient with septic shock and liver dysfunction
  - C. A patient with Cushing's triad of vital signs
  - D. A patient with severe catatonia and depression
-

Q24 24. Which of the following patients should not be loaded with fosphenytoin as a first line treatment?

- A. A patient with a GFR < 40
  - B. A patient with septic shock and liver dysfunction
  - C. A patient with Cushing's triad vital signs
  - D. A patient with severe catatonia and depression
- 

Q25 25. Which of the following patients should not be loaded with levetiracetam 60mg/kg when presenting in status epilepticus?

- A. A patient with CKD Stage 4 with GFR
  - B. A patient with septic shock and liver dysfunction
  - C. A patient with Cushing's triad vital signs
  - D. A with severe catatonia and depression
- 

Q26 26. A patient presents with seizures and is loaded with Valproic Acid. The target blood level is?

- A. 10-20
  - B. 20-50
  - C. 50-100
  - D. 100-120
-

Q27 27. A patient presents with seizures and is loaded with fosphenytoin. The target total level after correction for albumin is?

- A. 0.5-3
- B. 10-20
- C. 20-50
- D. 50-100

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Q28 28. A patient presents with a LMCA syndrome and is found to have a hemispheric bleed on NCHCT. Medical record demonstrates that he is prescribed Warfarin and has an INR of 2.2. Which of the following will result in the faster correction of coagulopathy?

- A. 10mg IV Vitamin K should be administered, followed by 5mg on day 2 and 3.
  - B. The patient should be type and screened & FFP ordered
  - C. Prothrombin complex concentrate 25-50 IU/kg and 10mg IV Vitamin K should both be administered
  - D. Prothrombin complex concentrate 1500u should be administered. IV Vitamin K should be given on day 2 and 3 to prevent INR rebound
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Q29 29. Prothrombin Complex Concentrate (4F-PCC; K-Centra) contains which of the following?

- A. Factor II, IX, and X
  - B. Factor II, VII, IX, X
  - C. Factors II, IX, VII and VIII
  - D. Activated Factor II, IX, and X
- 

Q30 30. Which of the following patients should not receive K-Centra despite being diagnosed with a life-threatening cerebral hemorrhage:

- A. A patient who cannot be successfully cross-matched with K-Centra
  - B. A patient on Warfarin with an INR of 1.8
  - C. A patient with cocaine-associated ICH given risk of vasospasm and clot
  - D. A patient with history of heparin induced thrombocytopenia
-

Q31 31. A patient presents with an ICH 6 hours after taking a dose of their apixaban. Which of the following is not appropriate treatment?

- A. 4F-PCC 25 IU/kg
  - B. 4F-PCC 50 IU/kg
  - C. FFP + vitamin K 10mg
  - D. Andexanet alfa bolus + infusion
- 

Q32 32. A patient with a history of CAD on ASA presents with a small basal ganglia ICH. Blood pressure is 195/90 on arrival. Which of the following is correct regarding management?

- A. The patient should be loaded with Keppra 1g on arrival to the ED if there is any decrease in mental status
  - B. One 6-pack of platelets should be given on arrival to the ED
  - C. Blood pressure should be emergently lowered to
  - D. Patient should be treated with nitroglycerine to prevent cardiac ischemia.
- 

Q33 33. A patient is intubated in the field with RSI with etomidate and succinylcholine. If no further sedation is given, approximately when could you expect to be able to examine them fully?

- A. 5 mins
  - B. 15 mins
  - C. 45 mins
  - D. 1 hour
-

Q34 34. After intubation with a paralytic, the pupillary exam will be

- A. Limited for the duration of paralysis
  - B. Reveal dilated pupils due to sympathetic activation
  - C. Unaffected by paralytics
  - D. Reveal pinpoint pupils due to paralytics effect on the pupillary constricting muscles
- 

Q35 35. A 69 yo M presents in coma (GCS < 8). He is found to have a large basal ganglia bleed with intraventricular extension. You suspect the cause is undiagnosed hypertension. Which is incorrect regarding management of his ICH?

- A. NSGY should be consulted for urgent ventriculostomy to relieve hydrocephalus caused by the bleed.
  - B. Mannitol should be dosed at 1g/kg
  - C. Dexamethasone 10mg IV should be administered
  - D. He should be intubated for airway protection
- 

Q36 36. A patient is admitted to the NeuroICU with a large frontal lobe ICH. He is initially awake and confused, but progresses to only arousing to sternal rub. You are concerned for worsening cerebral edema. The patient's sodium is 142. Which would be a relative contraindication to giving a 30cc bolus of 23% hypertonic saline.

- A. High suspicion for non-convulsive status epilepticus.
  - B. IVH occupying >50% of the lateral ventricles
  - C. Casting of the fourth ventricle with blood
  - D. Congestive heart failure with evidence of volume overload and pulmonary edema
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Q37



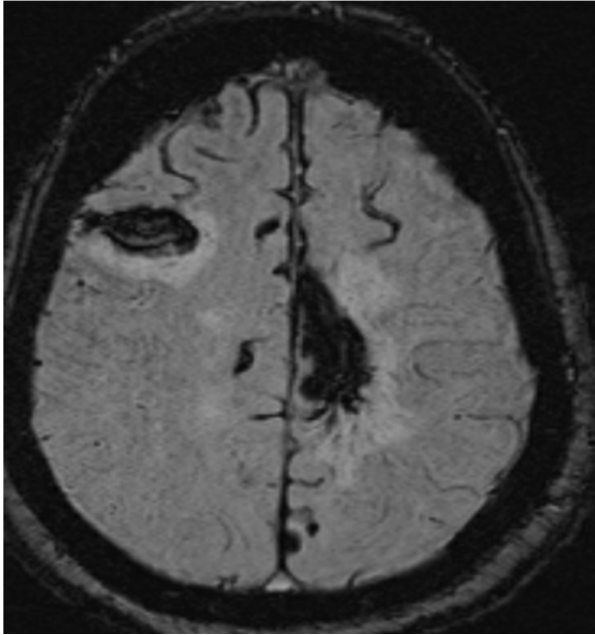
37. A previously healthy 23 yo female patient presents with a new headache and vomiting. NCHCT demonstrates the image below. CTA does not demonstrate vascular abnormalities. Which of the following should be urgently obtained?

- A. Initiate a workup for occult coagulopathy
  - B. MRI with SWI for cerebral amyloid angiopathy
  - C. Blood cultures
  - D. CT venogram
- 

Q38 38. Ultimately, to prevent secondary brain injury we are most interested in maintaining an adequate cerebral perfusion pressure. How is CPP calculated?

- A. Cerebral blood flow divided by cerebrovascular resistance
  - B. Intracranial pressure times cerebral resistance
  - C. Mean arterial pressure minus intracranial pressure
  - D. Cerebrovascular resistance multiplied by intracranial pressure
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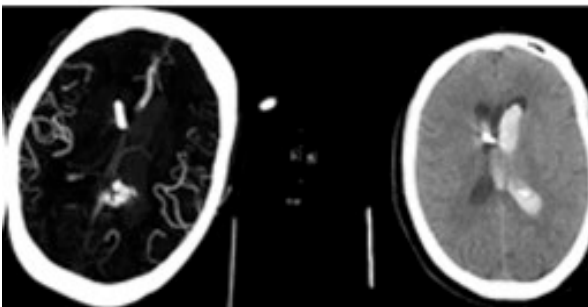
Q39



39. A 75 yo woman presents with new acute R gaze deviation and confusion. A new left frontal bleed is diagnosed. MRI the following day is shown above. Based on the MRI the most likely etiology of hemorrhage is:

- A. Hemorrhagic metastasis
  - B. Cerebral Amyloid Angiopathy
  - C. Hypertension
  - D. Leptomeningeal carcinomatosis
- 

Q40





40. A 40 yo woman with no PMH presents with abrupt onset headache, CT head and CTA are demonstrated above. What is the mostly likely etiology of hemorrhage.

- Hypertension
- Arterial Venous Malformation
- Mycotic Aneurysm
- Intravascular lymphoma

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