

Seizures – Questions

1. You are paged by the nurse to come to the bedside of a patient with known seizure disorder who is actively seizing. On arrival to the bedside, you note that the patient is having tonic-clonic movements of all extremities, upward eye deviation, and frothing at the mouth. The next step in the assessment/management of this patient is to
 - A. Ask the nurse how long the patient has been seizing
 - B. Wait for your senior resident to come and assist you
 - C. Have the nurse give lorazepam through the IV
 - D. Suction and secure the airway
 - E. Obtain a fingerstick blood glucose
2. You are called to the Emergency Department to admit a 2-year-old patient who had a 2 minute generalized tonic-clonic seizure associated with fever. The patient is well-appearing and at baseline neurological status 30 minutes after the event. His neurological examination is normal. What should you do?
 - A. Discharge the patient home after seizure education.
 - B. Admit the patient to the floor for overnight observation.
 - C. Recommend the Emergency Department obtain a head CT.
 - D. Obtain screening labs including a CBCD, chemistry panel and CRP.
 - E. Discharge the patient home with rectal diazepam.
3. All the following medications are used to treat status epilepticus EXCEPT
 - A. Lorazepam
 - B. Fosphenytoin
 - C. Phenobarbital
 - D. Propofol
 - E. Levetiracetam
4. A 3-year-old boy with known seizure disorder is being admitted for increased seizure frequency. As you assess the patient, he develops generalized tonic-clonic seizures. He is maintaining his airway and oxygen saturation is 94% on RA. He is afebrile. He does not have IV access. What would you do next?
 - A. Administer buccal midazolam.
 - B. Order an emergent head CT.
 - C. Check electrolytes and glucose STAT.
 - D. Obtain more history.
 - E. Start a peripheral IV.
5. Which of the following is TRUE about fosphenytoin/phenytoin?
 - A. Phenytoin is used first-line in status epilepticus.
 - B. Phenytoin can cause cardiac arrhythmia, but fosphenytoin does not.
 - C. The loading dose of fosphenytoin is 20 mg/kg PE IV or IM.
 - D. Fosphenytoin is best used for patients with myoclonic or absence seizures.
 - E. Phenytoin is a prodrug.

Seizures – Answers

1. You are paged by the nurse to come to the bedside of a patient with known seizure disorder who is actively seizing. On arrival to the bedside, you note that the patient is having tonic-clonic movements of all extremities, upward eye deviation, and frothing at the mouth. The next step in the assessment/management of this patient is to
 - A. Ask the nurse how long the patient has been seizing
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 - C. Have the nurse give lorazepam through the IV
 - D. Suction and secure the airway**
 - E. Obtain a fingerstick blood glucose

In all patients, the first assessment you make should be checking airway, breathing and circulation. Although you should call for help, you do not need to wait to start life-saving interventions. While lorazepam is an excellent anti-seizure medication, if your airway is not secure, you could risk putting this patient into respiratory failure. Asking for more information can be helpful in overall management, but is not the next best step. You can consider hypoglycemia as an underlying etiology, but this is also not the first step in your assessment.

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 - E. Discharge the patient home with rectal diazepam.

This patient has had a simple febrile seizure. The general course of this disease process is benign. It needs no further work-up. Use of anti-epileptic medications is not indicated in simple febrile seizures. Admission is not necessary. Parents should be reassured about this incident and given education about recurrence risk and when to activate the emergency medical system (i.e. call 911).

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 - E. Levetiracetam**

Levetiracetam (Keppra) is not routinely used to treat status epilepticus. Although there is some adult data to support its use, its use in pediatrics is not widespread. Other medications which are not routinely used in the treatment of status epilepticus in the pediatric population include valproic acid and topiramate. These medications may be used in refractory status epilepticus.

Seizures - Answers Continued

4. A 3-year-old boy with known seizure disorder is being admitted for increased seizure frequency. As you assess the patient, he develops generalized tonic-clonic seizures. He is maintaining his airway and oxygen saturation is 94% on RA. He is afebrile. He does not have IV access. What would you do next?
- A. Administer buccal midazolam.
 - B. Order an emergent head CT.
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 - D. Obtain more history.
 - E. Start a peripheral IV.

Since there is no vital sign instability, the patient does not require immediate treatment. This seizure may represent be typical for him. Important history to obtain includes frequency and type of seizures, medication history (what type of anti-epileptic therapy is the patient on and how often does he take it, has he missed any doses), any triggers for seizures/new exposures, previous history of status epilepticus and other recent events or symptoms.

Administration of buccal midazolam is not indicated if the seizure normally resolves within a few minutes. The patient may require further brain imaging. In a patient with known seizure disorder and no history of trauma or increased ICP, emergent head CT may expose the patient unnecessarily to high doses of radiation. MRI of the brain may be the imaging modality of choice, but does not need to be performed emergently. Starting a peripheral IV and checking labs could be useful but are not the next steps in the evaluation of this patient.

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 - C. The loading dose of fosphenytoin is 20 mg/kg PE IV or IM.
 - D. Fosphenytoin is best used for patients with myoclonic or absence seizures.
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Fosphenytoin is ordered in mg PE (phenytoin equivalents). It is a prodrug which is converted into phenytoin. It can cause cardiac arrhythmias although less commonly than phenytoin. Phenytoin should be avoided in patients with myoclonic or absence status epilepticus. Phenytoin is not used first-line because of its cardiac arrhythmias and risk of venous thrombosis.