

Evaluation of a First Seizure and Management of Status Epilepticus



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KEYWORDS

- First seizure • Status epilepticus • Nonconvulsive status epilepticus
- Seizure evaluation • Seizure treatment • Epilepsy • Antiepileptic drug

HOSPITAL MEDICINE CLINICS CHECKLIST

1. Seizures can be broadly grouped into provoked events that are believed a direct result of an acute systemic or central nervous system (CNS) illness and unprovoked events that have no definitive acute condition as the cause.
2. The initial evaluation of a first seizure involves a thorough history, including a detailed past medical history and review of potentially causative medications, a complete neurologic examination, and a determination of any recent illness.
3. After the initial history and examination, work-up next typically includes laboratory evaluation, brain imaging, and electroencephalogram (EEG).
4. Most seizures spontaneously remit by 3 minutes to 5 minutes. If an underlying acute cause is discovered, treatment of this trigger is often all that is required to prevent seizure recurrence.
5. Because many patients with a single seizure never have a second one, the decision to start an anticonvulsant is a complex one, which factors in history, imaging results, EEG findings, patient age, and even social factors.
6. Most states have specific restrictions on driving after a patient has had a seizure.
7. From a practical standpoint, any generalized seizure that lasts longer than 5 minutes should be treated emergently as status epilepticus (SE).
8. The initial evaluation of a patient in SE is similar to that of a patient with a first resolved seizure. Continuous EEG monitoring is used more frequently in SE.

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The author has nothing to disclose.

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9. The treatment of SE is typically protocol driven, with emphasis on early and aggressive intervention to decrease the duration of seizure activity. The initial pharmaceutical treatment is most commonly intravenous (IV) lorazepam.
10. ICU monitoring is commonly required initially for patients who present in SE or nonconvulsive SE (NCSE). A patient presenting with a first seizure and a low anticipated risk for recurrence often is admitted to a medical floor.

DEFINITIONS*What is a seizure?*

The official definition of a seizure is “a transient occurrence of signs and/or symptoms due to an abnormal excessive or synchronous neuronal activity in the brain.” Seizure can manifest clinically as anything from a subtle alteration in behavior, such as a staring spell; to rhythmic movements of a single limb; to a full-body, generalized tonic-clonic convulsion.

How are seizures categorized?

The International League of Epilepsy proposed new seizure-naming conventions in 2017 to help better categorize seizures in a rational and easier to understand way.¹ This new system has resulted in a large number of diagnostic options, due to the presence of multiple qualifiers that may accompany the broader seizure type that is determined. In general, however, the recommendation is that seizures be broadly considered based on the following categories (**Fig. 1**):

- Generalized versus focal events
- Motor versus nonmotor involvement

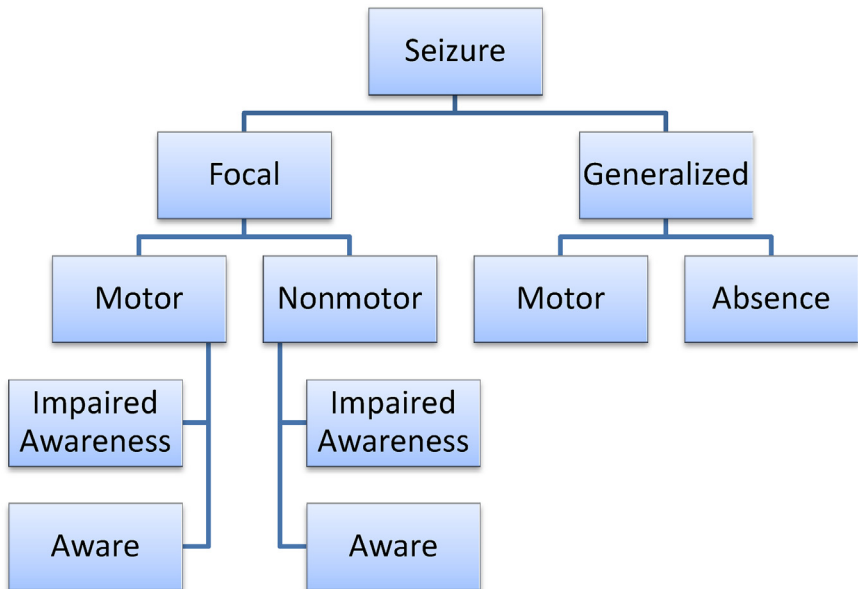


Fig. 1. The basic current proposed seizure classification scheme.

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