

COMMON CLINICAL DIAGNOSES AND CONDITIONS**SEIZURES****INTRODUCTION**

Seizures are the most common neurologic disorder of childhood. It is estimated that approximately 5% of all children will have at least one seizure before the age of 20. The prevalence of epilepsy, or recurrent unprovoked seizures, is about 0.5% in children. Seizures may range from self-limited to life-threatening events. Status epilepticus is the condition of prolonged seizure activity. Optimal management of seizures not only includes identification of the underlying cause and initiation of appropriate anticonvulsant therapy or other treatments, but also the maintenance and management of an adequate airway and circulation. Pediatric hospitalists frequently encounter patients with active seizures and underlying seizure disorders, and should render both acute care and coordination of multidisciplinary care to the ambulatory setting.

KNOWLEDGE

Pediatric hospitalists should be able to:

- Describe and distinguish between the various manifestations of seizure activity including involuntary motor activity, alterations of consciousness, behavior changes, disturbances of sensation and autonomic dysfunction.
- Classify seizures using appropriate descriptive terms such as generalized, partial, simple and complex.
- Discuss the pathophysiology of seizure activity.
- Review alternate diagnoses which may mimic the presentation of seizures including behavioral abnormalities, movement disorders, conversion disorders and others.
- Compare and contrast distinguishing features of seizures versus other paroxysmal events.
- List the various etiologies of seizures attending to both acute (such as electrolyte imbalance, infection, toxins, trauma and others) and chronic (such as central nervous system malformations, metabolic diseases, and others) causes.
- List the most common etiologies of seizures in various age groups such as the neonate, infant, preschool aged, school aged, and adolescent.
- Define “simple” and “complex” febrile seizures and discuss evaluation, treatment, prognosis, and indications for admission.
- State the common complications associated with seizures and status epilepticus.
- Discuss indications for hospitalization or transfer to a tertiary care facility.
- Discuss indications for transfer to an intensive care unit.
- Review the goals of inpatient diagnostic evaluation and therapy.
- Compare and contrast commonly used anti-epileptic drugs and therapies attending to treatments for specific seizure types, adverse drug events, and ease of use.
- Compare and contrast the risk and benefits of commonly used imaging modalities.
- List the indications for subspecialty consultation.
- Review the management of status epilepticus, including stabilization, testing, monitoring, and patient placement.
- Summarize the risks for readmission, attending to medication management (dosing, availability, pharmacokinetics, and side effect profiles), compliance, and changes in disease state.

SKILLS

Pediatric hospitalists should be able to:

- Correctly diagnose seizures by efficiently performing an accurate history and physical examination with particular focus on the neurologic exam.
- Accurately order appropriate laboratory and radiographic evaluations to identify the etiology of the seizure and potential underlying disorders.
- Interpret laboratory studies including drug levels and make therapy adjustments based on results.
- Order appropriate studies for patients with chronic seizure disorders, avoiding unnecessary duplication of testing and radiation exposure.
- Identify and efficiently treat the cause of the seizure where appropriate.
- Identify status epilepticus and initiate appropriate evidence-based treatment.
- Recognize complications due to seizures and institute appropriate cardiorespiratory support as needed.
- Identify patients at increased risk for seizure recurrence or morbidity and ensures appropriate monitoring and treatment.

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- Obtain appropriate consults efficiently.
- Create a comprehensive evaluation and management plan addressing the unique needs of patients and the family/caregiver.
- Anticipate, monitor for, identify, and treat potential side effects of treatment.
- Recognize and efficiently transfer patients requiring higher level of care.

ATTITUDES

Pediatric hospitalists should be able to:

- Communicate effectively with patients, the family/caregiver, hospital staff, subspecialists and primary care provider regarding the reasons for diagnostic testing and therapy choices.
- Recognize the role of patient and family/caregiver education in improving compliance with treatment and follow-up.
- Educate the family/caregiver regarding outcomes of febrile seizures including the risk of the child developing a seizure disorder.
- Collaborate with subspecialists and the primary care provider to ensure coordinated longitudinal care for children with seizure disorders.

SYSTEMS ORGANIZATION AND IMPROVEMENT

In order to improve efficiency and quality within their organizations, pediatric hospitalists should:

- Lead, coordinate or participate in the development and implementation of cost-effective safe, evidence-based care pathways to standardize the evaluation and management of hospitalized children with seizures and status epilepticus.
- Collaborate with hospital administration and community partners to develop and sustain referral networks for both transport and subspecialty services for children with seizures and chronic seizure disorders.
- Collaborate with primary care providers, subspecialists and other healthcare providers to create effective discharge plans that reduce the likelihood of readmission.