



**The 2004 ACEP
Seizure Clinical Policy:
*What About Pediatric
Seizure and Status Epilepticus
Patients?***


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Training Question


I am either fellowship trained in pediatric EM, or dual trained in EM and Pediatrics

a. Yes
b. No

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Session Objectives

- Discuss the epidemiology and evaluation of first time seizures in afebrile children
- Describe the treatment of persistent status epilepticus in children
- Discuss the utility of lumbar puncture in febrile seizures
- Discuss the use of CT in afebrile seizures

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Global Objectives

- Improve pt outcomes in seizures and SE
- Answer clinically relevant questions for practicing emergency physicians using existing scientific evidence
- Assist in decisions when to use diagnostic testing in patients with seizures and SE
- Facilitate useful disposition, documentation
- Assist in delineating clinical practice and areas in need of research

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Levels of Recommendation

- Grade I literature – Class A
- Grade II literature – Class B
- Grade III literature – Class C

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Key Clinical Question

1. What are the epidemiology, etiology, and prognosis of status epilepticus (SE) in children?

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Learning Points

- More common under 2 years
- Causes: meningitis, encephalitis, dehydration, toxins , and SDH (symptomatic)
- Mortality: 4-6%, 24% under 6 months, and 16-43% in refractory SE

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Key Clinical Question

2. What drugs should be used in status epilepticus refractory to benzodiazepines?

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Question 1

For a child in SE, my first line drug after a benzodiazepine is:

- a. Phenobarbital
- b. Phenytoin or Fosphenytoin
- c. Valproic acid
- d. Midazolam
- e. Other

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Learning Points

- No clear mandate in children
- 2004 ACEP Clinical Policy (adults): high dose phenytoin, valproate, midazolam, pentobarbital, or propofol (level C recommendation)

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Learning Points

- Practice guidelines: good response to PTN, phenobarbital, thiopental, and paraldehyde
- Other considerations: midazolam, pentobarbital, and propofol

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Key Clinical Question

3. What is the recurrence rate of seizures among children with a first non-febrile seizure?

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Learning Points

- Idiopathic: 30-50%
- Remote: above 50%

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Key Clinical Question

4. Should laboratory tests and lumbar puncture be performed routinely for children with a first non-febrile seizure?

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Question 2

In an infant with a first time, non-febrile seizure, I routinely order:

- a. Electrolytes
- b. Blood sugar
- c. Toxicology screen
- d. None

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Learning Points

- Option: serum tests (e.g., electrolytes)
- Rate of significant findings: 0-1% (wide confidence intervals)
- Class I and II studies

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Learning Points

- Lumbar puncture: limited utility
- No meningitis among 57 children
- 12% CSF pleocytosis

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ACEP Clinical Policy

- Level A Recommendation: None
- Level B Recommendation:
 - Determine a glucose and serum sodium in new onset seizure patients without comorbidities
 - Obtain a pregnancy test in women of child-bearing age
 - Perform an LP after a head CT in immunocompromised patients

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Key Clinical Question

5. Should computed tomography (CT) be performed routinely for children with a first non-febrile seizure?

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Question 3

- In a child with a new-onset non-febrile seizure, I routinely order a head CT:
- a. Yes
 - b. No

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Learning Points

- Consider CT (in children) if:
 - focal seizure
 - prolonged seizure
 - prolonged post-ictal period
 - Focal neurologic findings

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Learning Points

- Class I and class II studies
- 2% significant finding rate with CT
 - higher rate in at risk children
- MRI more accurate

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ACEP Clinical Policy

- Level A Recommendations: None
- Level B Recommendations:
 - When feasible perform a CT
 - Deferred outpatient neuroimaging when reliable follow-up is available

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Key Clinical Question

6. Should lumbar puncture be performed in children with febrile seizures?

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Question 4

I routinely perform an LP in children with a simple febrile seizure under the age of:

- 18 months
- 12 months
- 6 months
- I do not follow such a guideline

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Learning Points

- AAP recommendations:
 - < 12 months: strongly considered
 - 12-18 months: consider

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Learning Points

- Incidence < 5%
- Greater risk: atypical febrile seizure, abnormal neuro exam, suspicious physical exam, prior antibiotics, first few months of life

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Questions??

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