


Critical Issues in the Evaluation and Management of Adult Patients Presenting to the ED with Seizures:


The 2004 ACEP Clinical Policy

J. Stephen Huff, MD, FACEP

Critical Issues in the Evaluation and Management of Adult Patients Presenting to the ED with Seizures:
The 2004 ACEP Clinical Policy



J. Stephen Huff, MD, FACEP



FERNE/EMRA Session

Chicago, IL
May 18, 2007

J. Stephen Huff, MD, FACEP




J. Stephen Huff, MD

Associate Professor

Department of Emergency Medicine
University of Virginia
Charlottesville, Virginia

J. Stephen Huff, MD, FACEP




Disclosures

ACEP Clinical Policies Committee

Executive Board, Foundation for Education and Research in Neurologic Emergencies

FERNE support by Abbott, Eisai, Pfizer, UCB

J. Stephen Huff, MD, FACEP



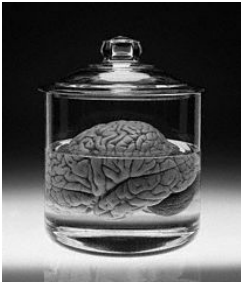
FERNE

Foundation for Education and Research in Neurological Emergencies


www.ferne.org

J. Stephen Huff, MD, FACEP






J. Stephen Huff, MD, FACEP

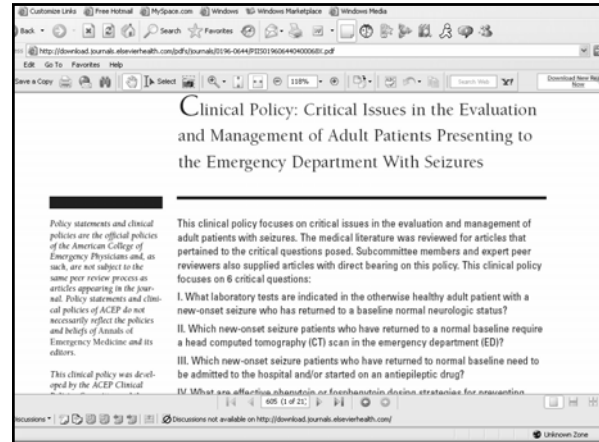


Clinical Policy: Critical Issues in the Evaluation and Management of Adult Patients Presenting to the Emergency Department With Seizures

**Annals of Emergency Medicine May, 2004
Clinical Policy Subcommittee on Seizures**


**Andy Jagoda, Ed Kuffner, J. Stephen Huff,
Edward Sloan, William Dalsey**

J. Stephen Huff, MD, FACEP 




ACEP Seizure Clinical Policy

Scheduled revision of clinical policy
Transition to new format - Q/A
Evidence-based
Inclusions / exclusions - adult patients

J. Stephen Huff, MD, FACEP 


Question 1. What laboratory tests are indicated in the otherwise healthy adult patient with a new-onset seizure who has returned to a baseline normal neurologic status?

Literature suggests lab testing low yield
glucose
sodium
Identification of pregnancy important
Drug screen? - no prospective studies
Lumbar puncture? - if immunosuppressed

J. Stephen Huff, MD, FACEP 


What Lab Testing?

Level A recommendations. None specified
Level B recommendations.
1. Determine a serum glucose and sodium level....
2. Obtain a pregnancy test if a woman is of childbearing age
3. Perform a LP, after a CT, either in the ED or after admission, on immunocompromised pts
Level C recommendations. None specified

J. Stephen Huff, MD, FACEP 

Question 2. Which new-onset seizure patients who have returned to baseline require a head CT in the ED?

Literature shows little evidence for non-directed testing
History, physical most important in determining testing

J. Stephen Huff, MD, FACEP 

CT Neuroimaging?

Level A recommendations. None specified

Level B recommendations

1. When feasible, perform neuroimaging of the brain in the ED on pts with a first-time seizure
2. Deferred neuroimaging may be used when reliable followup is available.

Level C recommendations. None specified

J. Stephen Huff, MD, FACEP



Question 3. Which new-onset seizure patients who have returned to normal baseline need to be admitted to the hospital and/or started on an antiepileptic drug?

What outcome measure? What time frame?
Little info on risk of early seizure recurrence
Rate 14% at one year for unprovoked seizure
AED decision based on labs, imaging, EEG
Rarely is all info available in the ED

J. Stephen Huff, MD, FACEP



Admission, AED Initiation?

Level A recommendations. None specified.

Level B recommendations. None specified.

Level C recommendations.

1. Patients with a normal neurologic examination can be discharged from the ED with outpatient followup.
2. Patients with a normal neurologic examination, no comorbidities, and no known structural brain disease do not need to be started on an AED in the ED.

J. Stephen Huff, MD, FACEP



Question 4. What are effective phenytoin or fosphenytoin dosing strategies for preventing seizure recurrence in patients who present to the EDwith subtherapeutic level?

No studies designed to compare seizure recurrence rates
Achievement of therapeutic level used as an outcome measure
Adverse events important...
Studies mix seizures of different causes, alcohol-related seizures

J. Stephen Huff, MD, FACEP



J. Stephen Huff, MD, FACEP



Phenytoin Loading?

Level A recommendations. None specified

Level B recommendations. None specified

Level C recommendations.

Administer an intravenous or oral loading dose of phenytoin or intravenous or intramuscular fosphenytoin, and restart daily oral maintenance dosing.

J. Stephen Huff, MD, FACEP



Question 5. What agent(s) should be administered to a patient in status epilepticus who continues to seize after having received benzodiazepine and phenytoin?

Limited prospective trials - small series
Epilepsy Foundation of America –
high dose phenytoin
Intravenous valproate, levetiracetam
Infusion of benzodiazepines
Infusion of propofol

J. Stephen Huff, MD, FACEP



Status Epilepticus Rx?

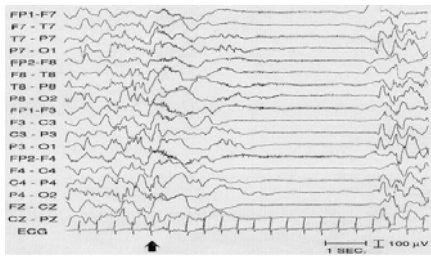
Level A recommendations. None specified.

Level B recommendations. None specified.

Level C recommendations.

Administer one of the following agents intravenously: “high-dose” phenytoin, phenobarbital, valproic acid, midazolam infusion, pentobarbital infusion, or propofol infusion.

J. Stephen Huff, MD, FACEP



J. Stephen Huff, MD, FACEP



Question 6. When should an EEG be performed in the ED?

Many recommendations, little data
Survey of EEG labs- little agreement
persistent altered consciousness / coma
refractory generalized convulsive SE
pharmacologically induced coma
encephalitis

J. Stephen Huff, MD, FACEP



ED EEG Testing?

Most compelling argument-
detection of subtle status epilepticus (transformed SE, ‘nonconvulsive’ SE) diagnosis
to alter therapy
Up to 25% of patients with EEG seizures

J. Stephen Huff, MD, FACEP



ED EEG Testing?

Level A recommendations. None specified.

Level B recommendations. None specified.

Level C recommendations.

Consider an emergent EEG in patients suspected of being in nonconvulsive SE or in subtle convulsive SE, patients who have received long-acting paralytic, or patients who are in drug-induced coma.

J. Stephen Huff, MD, FACEP



Conclusions

ACEP practice parameter defines role and timing of emergency management of seizures
Largely based upon Class II and III evidence
Many simple questions without answers

J. Stephen Huff, MD, FACEP



Recommendations

Keep listening....

Standards are few....

J. Stephen Huff, MD, FACEP



Commentary

What does the clinical guideline really tell us?

J. Stephen Huff, MD, FACEP



Commentary

Is the guideline clinically relevant?

J. Stephen Huff, MD, FACEP



Commentary

How could the guideline be enhanced?
Is there literature out there that could really answer the questions in a clinically useful manner?
If there isn't how can they be answered?

J. Stephen Huff, MD, FACEP



Questions?

www.FERNE.org

huff@virginia.edu

ferne_emra_2007_s2_huff_acepsclinicalpolicy_051707
6/6/2007 1:05 PM

J. Stephen Huff, MD, FACEP

