

# Evaluation Guidelines for Seizure in an Otherwise Healthy Child

These guidelines are for use in children 2-18 years presenting with first unprovoked seizure  
Guideline does not apply to

- Neonates (age 0 - 28 days) – refer to <http://neoreviews.aappublications.org/cgi/content/full/5/8/e327>
- Simple febrile seizures – refer to AAP guidelines at <http://aappolicy.aappublications.org/cgi/content/full/pediatrics;103/6/e86>
- Children under two who will require exclusion of other disorders – requires early referral to specialist
- Children with head trauma, meningeal signs or other significant medical history – requires emergent evaluation with emergency services
- Status epilepticus (seizure lasting > 5 minutes) – requires emergent evaluation with emergency services

## Diagnostic principles<sup>1</sup>

- All children with a suspected seizure should be seen urgently by a health professional who can assess the seizure. This is to ensure precise and early diagnosis and initiation of therapy as appropriate to their needs.
- A thorough history and physical examination including a detailed neurologic examination and developmental assessment should be performed in children presenting with an apparent first, unprovoked seizure
- The aim is to determine the seizure type(s) and any possible epilepsy syndrome; and to understand the etiology and co-morbidity.

## Management Principles<sup>2</sup>

- **The goal is no seizures and no side effects of medication within three months of initiation of treatment.**
- All encounters should be patient centered with the aim of moving towards self-management and partnerships in working together. The child with epilepsy, and their family/caregiver should participate as partners in all decisions about their healthcare
- Health care providers must take fully into account the cultural context and any specific needs
- Children with epilepsy (and/or their family/caregiver, as appropriate) should have access to written and visual information on epilepsy, counseling services and information about voluntary organizations.
- Services should aim to provide timely and appropriate investigations and diagnoses;
- All children with epilepsy should have a comprehensive management plan agreed between the child, their family /caregiver and health care providers
- Education for the patient and family should aim to decrease fear of the seizure, understand the process and the prognosis; and what to do in the event of future seizures.<sup>3</sup> Education should begin at the point of entry to the health care encounter.
- The anti-epileptic drug treatment strategy should be individualized according to the seizure type, epilepsy syndrome, co-medication and co-morbidity, the child's lifestyle, and the preferences of the child and their family/caregiver.

## Work-up<sup>4</sup>

All diagnostic tests should be carried out in a child-centered environment

1. **Blood tests in uncomplicated first seizure:** Routine laboratory studies are **NOT** recommended for children with first unprovoked seizures. Laboratory tests are of little value in evaluation of first, unprovoked seizure in children over 2 without prolonged post-ictal confusion. **In general one checks serum glucose and excludes the need for tests via careful history and exam**
2. **If concerned then the first steps would be:**
  - serum glucose to exclude hypoglycemia
  - CBC to exclude suspected infection or anemia
  - If no return to baseline alertness, check urea and sodium potassium
  - If considering other electrolyte abnormalities, check calcium, magnesium and phosphate
  - If drug exposure or toxins suspected, collect toxicology screen and lead levels

**Blood tests if neurological cause suspected**

- Serum ammonia, serum and urine organic and amino acids, ABG or pH, and serum lactate (for metabolic disorders)

**1. Lumbar puncture:** LP is not recommended unless there is concern for meningitis or encephalitis. If increased intracranial pressure is suspected, perform imaging study prior to LP. (Would be excluded then from this guideline)

**2. EEG**

▪ **Use EEG:** Need both awake and sleep EEG

- To **support** a diagnosis of epilepsy in children in whom the clinical history suggests it
- To help determine seizure type and epilepsy syndrome
- To assess the risk of seizure recurrence after a first unprovoked seizure.

▪ **Do not use EEG:**

- To exclude a diagnosis of epilepsy
- In the case of probable syncope (risk of false-positive result)
- In isolation to diagnose epilepsy.
  
- **If EEG is necessary, perform it after the second epileptic seizure** or in certain circumstances, as evaluated by a specialist, after a first epileptic seizure. Remember : EEG—both awake and sleep
- EEG should be done within 4-6 weeks after request

**3. Other tests and assessments**

- 12-lead ECG or referral to a cardiologist to exclude QT abnormalities or arrhythmias
- Refer for **neuropsychological assessment** when:  
MRI has identified abnormalities in areas associated with cognitive function  
The child is having educational difficulties
- The child complains of acquired memory or other cognitive difficulty.

**4. Neuro-imaging**

Use neuro-imaging (MRI/CT) to identify structural abnormalities that cause certain epilepsies.

- Do not routinely request neuro-imaging if a diagnosis of idiopathic generalised epilepsy has been made. Routine neuro-imaging (MRI/CT) is not recommended in children with first unprovoked seizures unless the history, examination, or neurologic and developmental assessment indicate a focus or deterioration/delay, in which case an MRI is the procedure of choice
  
- **MRI** is the imaging investigation of choice for people with epilepsy. The use of MRI is particularly important for children:
  - Who have developed epilepsy before the age of 2 years
  - Who have any suggestion of a focal onset from history, examination or EEG (unless clear evidence of benign focal epilepsy)
  - In whom seizures continue in spite of first-line medication.

**CT** is an alternative to MRI:

- If MRI is contraindicated or unavailable
- For children in whom a general anaesthetic would be required for MRI but not CT
- In an acute situation, to determine if a seizure has been caused by an acute neurological lesion or illness.

## Decision to treat<sup>5</sup>

The decision as to whether or not to treat with antiepileptic drugs (AED) following a first unprovoked seizure in a child or adolescent must be based on a risk-benefit assessment that weighs the risk of another seizure (both the statistical risk of recurrence and the potential consequences of a recurrence) against the risk (cognitive, behavioral, and physical as well as psychosocial) of chronic AED therapy.<sup>1</sup>

- Treatment with AED is not indicated for the prevention of the development of epilepsy
- Treatment with AED may be considered in circumstances where the benefits of reducing the risk of a second seizure outweigh the risks of pharmacologic and psychosocial side effect
- The decision should be made between the child with epilepsy, their family/caregiver and an epilepsy specialist.
- After a full discussion of the risks and benefits, some children with epilepsy (through their family and/or caregiver in some cases) may choose not to take AED therapy.
- AED therapy should only be started once the diagnosis of epilepsy is confirmed, except in exceptional circumstances that require discussion and agreement between the prescriber, the specialist, and the child and their family and/or carers as appropriate.
- Treatment with AED therapy is generally recommended after a second seizure.
- Consider AED treatment after a first unprovoked seizure:
  - if the child has a neurological deficit or
  - the EEG shows unequivocal epileptic activity or
  - the child and/or their family and/or carers consider the risk of having a further seizure unacceptable or
  - brain imaging shows a structural abnormality.

## Ongoing Management of Children with Epilepsy

- All children should have open access for care within a medical home.
- All children should have a regular structured review at least yearly by a specialist.
- If seizure control is achieved after initial consultation, further involvement of a specialist may not be necessary.
- Any provider managing a child with epilepsy should:
  - **Identify seizure type and seizure syndrome based on clinical description and EEG changes.**
    - Initiate AED medication appropriate for seizure type and syndrome.
    - Monitor AED dose, side effects, and compliance, as well as appropriate blood tests to detect possible toxicity
    - Assess the child's behavioral and cognitive needs, make referrals, and arrange for neuropsychiatric testing when needed, preferably at the referral center
    - If the primary care provider is unable to accomplish any of the above, the child should be referred to a pediatric neurologist..

## Referral

There is evidence that accurate classification and initiation of optimal medication results in better seizure control and fewer medication trials

### **Refer When:**

- The diagnosis of epilepsy, seizure type, or epilepsy syndrome is uncertain
  - Patient is acutely ill, has uncontrolled seizures, or status epilepticus
  - If seizures persist after 3 months of management by primary care provider
  - If seizures persist after 9-12 months of management by a neurologist, referral to an epilepsy center is recommended
- 
- **Data Needed for Referral:**
    - Copy of the imaging study (if done), preferably performed at referral center
    - Results of EEG, preferably done at referral center
    - Copies of relevant medical records and studies
    - Chronology of all anticonvulsant meds and blood levels
    - Copies of medical records from any previous neurologist or specialist visits

# Seizure

## Unprovoked Seizure in an Otherwise Healthy Child 2-18 years

Thorough **history and physical examination** including a detailed neurologic examination and developmental assessment

### Exclusion

- **Neonates (age 0 - 28 days)**  
Work up per neonatal guideline:  
<http://neoreviews.aappublications.org/cgi/content/full/5/8/e327>
- **Simple febrile seizures**  
See AAP guidelines:  
<http://aappolicy.aappublications.org/cgi/content/full/pediatrics;103/6/e86>
- **Children less than 2 years**  
Will need work up including MRI and early referral to neurologist
- **Children with head trauma, meningeal signs or other significant medical history**  
Evaluate and treat appropriately
- **Status epilepticus (seizure lasting > 5 minutes)**  
Refer after stabilization

### Work up

Routine laboratory studies are **NOT** recommended for children with first unprovoked seizures. Laboratory tests are of little value in evaluation of first, unprovoked seizure in children over 2 without prolonged post-ictal confusion<sup>1</sup>

#### Blood tests in uncomplicated first seizure

- Serum glucose to exclude hypoglycemia
- CBC to exclude unsuspected infection or anemia if needed
- If no return to baseline alertness check urea and sodium potassium
- If considering other electrolyte abnormalities, check calcium, magnesium and phosphate
- If drug exposure or toxins suspected, collect toxicology screen and lead levels

#### Use EEG:

- To support a diagnosis of epilepsy in children in whom the clinical history suggests it
- To help determine seizure type and epilepsy syndrome
- To assess the risk of seizure recurrence after a first unprovoked seizure

**If EEG is necessary, perform it after the second epileptic seizure** or in certain circumstances, as evaluated by a specialist, after a first epileptic seizure.

#### Do not use EEG:

- To exclude a diagnosis of epilepsy
- In the case of probable syncope (risk of false-positive result)
- In isolation to diagnose epilepsy.

### Neuro imaging

Use neuro-imaging (MRI/CT) to identify structural abnormalities that cause certain epilepsies.

Do not routinely request neuro-imaging if a diagnosis of idiopathic generalized epilepsy

Routine neuro-imaging (MRI/CT) is not recommended in children with first unprovoked seizures unless the history &/or physical exam, suggest a focus or deterioration/delay, in which case an MRI is the procedure of choice

### Refer when

- The diagnosis of epilepsy, seizure type, or epilepsy syndrome is uncertain
- Patient is acutely ill, has uncontrolled seizures, or status epilepticus
- If seizures persist after 3 months of management by primary care provider
- If seizures persist after 9-12 months of management by a neurologist, referral to an epilepsy center is recommended

### Data needed

- Copy of the imaging study, preferably performed at referral center, if done
- Results of EEG, preferably done at referral center
- Copies of relevant medical records and studies
- Chronology of all AED and blood levels

Consider other diagnoses – cardiac or neuro psychological

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<sup>1</sup> NICE Guidelines - The Epilepsies: the diagnosis and management of the epilepsies in children and young people in Primary and Secondary Care. London 2004.

<http://www.nice.org.uk/pdf/word/CG020niceguideline.doc> ; <http://www.nice.org.uk/pdf/CG020childrenquickrefguide.pdf>

<sup>2</sup> NICE Guidelines The Epilepsies: the diagnosis and management of the epilepsies in children and young people in Primary and Secondary Care. London 2004

<sup>3</sup> Evidence Based Clinical Practice Guideline for First Unprovoked Seizure for Children 2 to 18 Years of Age Guideline 8 Copyright © 1999, 2002 Cincinnati Children's Hospital Medical Center; *Health Policy & Clinical Effectiveness Program* <http://www.cincinnatichildrens.org/NR/rdonlyres/5C7C1026-E504-493F-A5EA-5DD1A692333E/0/SeizureGL.PDF>

<sup>4</sup> NICE (ibid) NICHQ Expert Group; Cincinnati Children's Hospital (ibid)

<sup>5</sup> NICE; (ibid); Hirtz, A. Berg, D. Bettis, C. Camfield, P. Camfield, P. Crumrine, W. D. Gaillard, S. Schneider, and S. Shinnar Practice parameter: Treatment of the child with a first unprovoked seizure: Report of the Quality Standards Subcommittee of the American Academy of Neurology and the Practice Committee of the Child Neurology Society. *Neurology*, Jan 2003; 60: 166 – 175.

[http://www.guideline.gov/summary/summary.aspx?ss=15&doc\\_id=4105&nbr=3150](http://www.guideline.gov/summary/summary.aspx?ss=15&doc_id=4105&nbr=3150)

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## Complete Summary

### GUIDELINE TITLE

Practice parameter: treatment of the child with a first unprovoked seizure: report of the Quality Standards Subcommittee of the American Academy of Neurology and the Practice Committee of the Child Neurology Society.

### BIBLIOGRAPHIC SOURCE(S)

- Hirtz D, Berg A, Bettis D, Camfield C, Camfield P, Crumrine P, Gaillard WD, Schneider S, Shinnar S. Practice parameter: treatment of the child with a first unprovoked seizure: report of the Quality Standards Subcommittee of the American Academy of Neurology and the Practice Committee of the Child Neurology Society. Neurology 2003 Jan 28;60(2):166-75. [66 references] [PubMed](#)

### GUIDELINE STATUS

This is the current release of the guideline.

## COMPLETE SUMMARY CONTENT

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## [DISCLAIMER](#)

## SCOPE

## DISEASE/CONDITION(S)

First time unprovoked seizures, including partial seizures as well as generalized onset tonic-clonic or tonic seizures (not including absence, myoclonic and atonic seizures)

## GUIDELINE CATEGORY

Evaluation  
Prevention  
Risk Assessment  
Treatment

## CLINICAL SPECIALTY

Family Practice  
Neurology  
Pediatrics

## INTENDED USERS

Physicians

## GUIDELINE OBJECTIVE(S)

To review published literature and present evidence-based practice recommendations relevant to the decision to begin treatment with antiepileptic drugs (AED) after a child or adolescent experiences a first unprovoked seizure

## TARGET POPULATION

Children and adolescents with a first unprovoked seizure

This parameter does *not* include the following populations:

- Neonates
- Children diagnosed with epilepsy
- Children with a known immediate precipitating head trauma

- Children with previously diagnosed central nervous system (CNS) infection, tumor, or other known acute precipitating causes such as hypoglycemia
- Children with febrile seizures

## **INTERVENTIONS AND PRACTICES CONSIDERED**

### **Evaluation/Risk Assessment**

Individualized assessment of risks and benefits of antiepileptic drug therapy, taking into account the risk and potential consequences of seizure recurrence, risk of side effects of therapy, medical issues, and patient/family preferences

### **Prevention/Treatment**

Antiepileptic drugs (AED), such as carbamazepine, phenytoin, valproic acid, and phenobarbital

## **MAJOR OUTCOMES CONSIDERED**

- Risks of seizure recurrence after first seizure
- Seizure recurrence rate
- Risks and side effects of treatment with antiepileptic drugs (AEDs)

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## **METHODOLOGY**

### **METHODS USED TO COLLECT/SELECT EVIDENCE**

Hand-searches of Published Literature (Primary Sources)

Hand-searches of Published Literature (Secondary Sources)

Searches of Electronic Databases

### **DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE**

A literature search was performed including Ovid Medline and Ovid Biosys and Current Contents for relevant articles published from 1980 to 2001 using the following key words: treatment, antiepileptics, medications, therapy, management, epilepsy, seizures, convulsions, child, newborn, and adolescent. Standard search procedures were used, and subheadings were applied as appropriate. These searches produced 948 titles of journal articles. Titles and abstracts were reviewed for content regarding first unprovoked seizures in children and adults. Articles from the searches were identified as relevant, and additional articles from the references in these primary articles were included. Articles pertaining to

children with both first seizures and established epilepsy were included but were excluded if they did not report data from either children or adults who had experienced only a single seizure.

## NUMBER OF SOURCE DOCUMENTS

Not stated

## METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

## RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Evidence classification scheme of the American Academy of Neurology:

### Rating of Therapeutic Article

**Class I:** Prospective, randomized, controlled clinical trial with masked outcome assessment, in a representative population. The following are required:

- a. Primary outcome(s) is/are clearly defined.
- b. Exclusion/inclusion criteria are clearly defined.
- c. Adequate accounting for dropouts and crossovers with numbers sufficiently low to have minimal potential for bias
- d. Relevant baseline characteristics are presented and substantially equivalent among treatment groups, or there is appropriate statistical adjustment for differences.

**Class II:** Prospective matched group cohort study in a representative population with masked outcome assessment that meets *at least one* of the following *or* a randomized, controlled trial in a representative population that lacks one criterion *at least one*.

**Class III:** All other controlled trials (including well-defined natural history controls or patients serving as own controls) in a representative population, where outcome assessment is independent of patient treatment.

**Class IV:** Evidence from uncontrolled studies, case series, case reports, or expert opinion.

## METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review with Evidence Tables

## **DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE**

Each article containing data regarding treatment was reviewed and classified by two or more reviewers. Abstracted data included numbers of subjects, study design, ages, seizure types, whether first seizures only or a mixture of single and multiple seizures, seizure recurrences, types of treatment, side effects, and measurement of compliance and length of follow-up. Methods of data analysis and power were noted when available.

## **METHODS USED TO FORMULATE THE RECOMMENDATIONS**

Not stated

## **RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS**

### **Translation of Evidence to Recommendations**

**Level A** rating requires at least one convincing Class I study or at least two consistent, convincing Class II studies.

**Level B** rating requires at least one convincing Class II study or overwhelming Class III evidence.

**Level C** rating requires at least two convincing Class III studies.

### **Rating of Recommendation**

**A** = established as effective, ineffective, or harmful for the given condition in the specified population.

**B** = probably effective, ineffective, or harmful for the given condition in the specified population.

**C** = possibly effective, ineffective, or harmful for the given condition in the specified population.

**U** = data inadequate or conflicting. Given current knowledge, treatment is unproven.

## **COST ANALYSIS**

A formal cost analysis was not performed and published cost analyses were not reviewed.

## **METHOD OF GUIDELINE VALIDATION**

External Peer Review

Internal Peer Review

## DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Draft guidelines were reviewed for accuracy, quality, and thoroughness by the American Academy of Neurology (AAN) members, topic experts, and pertinent physician organizations.

Final guidelines were approved by the Quality Standards Subcommittee on April 16, 2002, the Practice Committee on August 3, 2002, and the American Academy of Neurology Board of Directors on October 19, 2002. This statement was published in *Neurology* 2003;60:166-175.

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## RECOMMENDATIONS

### MAJOR RECOMMENDATIONS

Definitions of the ratings of recommendations (A, B, C, U), translation of evidence to recommendations (A-C), and rating of therapeutic articles (Class I-IV) are provided at the end of the "Major Recommendations" field.

### Recommendations

The decision as to whether or not to treat with antiepileptic drugs (AED) following a first unprovoked seizure in a child or adolescent must be based on a risk-benefit assessment that weighs the risk of another seizure (both the statistical risk of recurrence and the potential consequences of a recurrence) against the risk (cognitive, behavioral, and physical as well as psychosocial) of chronic AED therapy. This decision must be individualized and take into account both medical issues and patient and family preference. Therefore, the following recommendations are made for children and adolescents who have experienced a first seizure:

1. Treatment with AED is not indicated for the prevention of the development of epilepsy (**Level B**).
2. Treatment with AED may be considered in circumstances where the benefits of reducing the risk of a second seizure outweigh the risks of pharmacologic and psychosocial side effects (**Level B**).

### Definitions:

### Rating of Recommendation

**A** = established as effective, ineffective, or harmful for the given condition in the specified population.

**B** = probably effective, ineffective, or harmful for the given condition in the specified population.

**C** = possibly effective, ineffective, or harmful for the given condition in the specified population.

**U** = data inadequate or conflicting. Given current knowledge, treatment is unproven.

### **Translation of Evidence to Recommendations**

**Level A** rating requires at least one convincing Class I study or at least two consistent, convincing Class II studies.

**Level B** rating requires at least one convincing Class II study or overwhelming Class III evidence.

**Level C** rating requires at least two convincing Class III studies.

### **Rating of Therapeutic Article**

**Class I:** Prospective, randomized, controlled clinical trial with masked outcome assessment, in a representative population. The following are required:

- a. Primary outcome(s) is/are clearly defined.
- b. Exclusion/inclusion criteria are clearly defined.
- c. Adequate accounting for dropouts and crossovers with numbers sufficiently low to have minimal potential for bias
- d. Relevant baseline characteristics are presented and substantially equivalent among treatment groups, or there is appropriate statistical adjustment for differences.

**Class II:** Prospective matched group cohort study in a representative population with masked outcome assessment that meets aâ€“d above *or* a randomized, controlled trial in a representative population that lacks one criterion aâ€“d.

**Class III:** All other controlled trials (including well-defined natural history controls or patients serving as own controls) in a representative population, where outcome assessment is independent of patient treatment.

**Class IV:** Evidence from uncontrolled studies, case series, case reports, or expert opinion.

### **CLINICAL ALGORITHM(S)**

None provided

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## EVIDENCE SUPPORTING THE RECOMMENDATIONS

### TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for each recommendation (see "Major Recommendations").

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## BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

### POTENTIAL BENEFITS

- These guidelines are intended to assist physicians in clinical decision making regarding the treatment of a child with a first unprovoked seizure.
- Treatment after a first unprovoked seizure appears to decrease the risk of a second seizure, but there are few data from studies involving children. There appears to be no benefit of treatment with regard to the prognosis for long-term seizure remission.

### POTENTIAL HARMS

Antiepileptic drugs (AED) may cause systemic side effects such as rash, hirsutism, and weight gain. Severe reactions such as hepatic toxicity, bone marrow toxicity, and Stevensâ€™Johnson syndrome cannot be anticipated and require early recognition of symptoms. Side effects of antiepileptic drugs occurring in children include effects on behavior and higher cortical function, which are often dose related and may be under-recognized. Dose-related side effects may be highest initially and amenable to dosage reduction, but this may also limit the potential effectiveness of antiepileptic drugs. If the patient is a teenage girl who may become pregnant, the risk of teratogenicity is an additional consideration.

Refer to the original guideline document for more details regarding behavioral, cognitive, and systemic side effects.

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## QUALIFYING STATEMENTS

### QUALIFYING STATEMENTS

- Before any treatment decisions are approached, it is critical to determine whether the event is

truly a seizure and whether it is the child's first. A detailed history from a reliable observer and careful medical history and neurological examination may provide information allowing the physician to rule out nonepileptic events.

- Although treatment after a first unprovoked seizure appears to decrease the risk of a second seizure, there are few data from studies involving only children.
- This statement is provided as an educational service of the American Academy of Neurology (AAN) and the Child Neurology Society (CNS). It is based on an assessment of current scientific and clinical information. It is not intended to include all possible proper methods of care for a particular neurologic problem or all legitimate criteria for choosing to use a specific procedure. Neither is it intended to exclude any reasonable alternative methodologies. The American Academy of Neurology and Child Neurology Society recognize that specific patient decisions are the prerogative of the patient and the physician caring for the patient, based on all of the circumstances involved.

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## **IMPLEMENTATION OF THE GUIDELINE**

### **DESCRIPTION OF IMPLEMENTATION STRATEGY**

An implementation strategy was not provided.

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## **INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES**

### **IOM CARE NEED**

Getting Better  
Staying Healthy

### **IOM DOMAIN**

Effectiveness  
Patient-centeredness

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## **IDENTIFYING INFORMATION AND AVAILABILITY**

## **BIBLIOGRAPHIC SOURCE(S)**

- Hirtz D, Berg A, Bettis D, Camfield C, Camfield P, Crumrine P, Gaillard WD, Schneider S, Shinnar S. Practice parameter: treatment of the child with a first unprovoked seizure: report of the Quality Standards Subcommittee of the American Academy of Neurology and the Practice Committee of the Child Neurology Society. *Neurology* 2003 Jan 28;60(2):166-75. [66 references] [PubMed](#)

## **ADAPTATION**

Not applicable: The guideline was not adapted from another source.

## **DATE RELEASED**

2003 Jan 28

## **GUIDELINE DEVELOPER(S)**

American Academy of Neurology - Medical Specialty Society  
Child Neurology Society - Medical Specialty Society

## **SOURCE(S) OF FUNDING**

American Academy of Neurology (AAN)

## **GUIDELINE COMMITTEE**

Quality Standards Subcommittee of the American Academy of Neurology  
Practice Committee of the Child Neurology Society

## **COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE**

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## **FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST**

Not stated

## **ENDORSER(S)**

American Academy of Pediatrics - Medical Specialty Society  
American Epilepsy Society - Disease Specific Society

## **GUIDELINE STATUS**

This is the current release of the guideline.

## **GUIDELINE AVAILABILITY**

Electronic copies: A list of American Academy of Neurology (AAN) guidelines, along with a link to a Portable Document Format (PDF) file for this guideline, is available at the [AAN Web site](#).

Print copies: Available from the AAN Member Services Center, (800) 879-1960, or from AAN, 1080 Montreal Avenue, St. Paul, MN 55116.

## **AVAILABILITY OF COMPANION DOCUMENTS**

The following is available:

- AAN guideline development process [online]. St. Paul (MN): American Academy of Neurology.

Electronic copies: Available from the [American Academy of Neurology Web site](#).

## **PATIENT RESOURCES**

None available

## **NGC STATUS**

This summary was completed by ECRI on February 6, 2004.

## **COPYRIGHT STATEMENT**

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## **DISCLAIMER**

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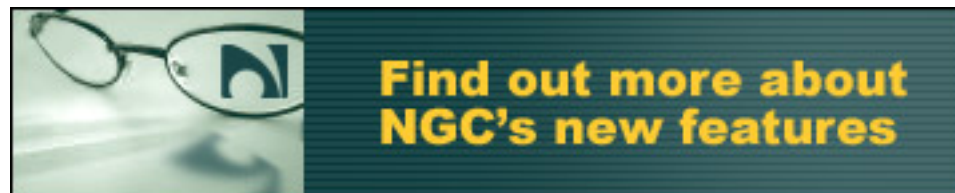
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The logo for FIRSTGOV, with "FIRST" in blue and "GOV" in red, and a small red star above the "I" in "FIRST".



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