This is a summary of the American Academy of Neurology (AAN) and Child Neurology Society (CNS) evidence-based guideline reviewing the evidence on the pharmacological treatment of migraine in children and adolescents. The guideline is based on a complete and critical analysis of the published studies to date and is designed to provide a strategy to make decisions in patient care. Please note this caution from the guideline authors: “For a clinical problem so prevalent in children and adolescents, there is a disappointing lack of evidence from controlled, randomized, and masked trials.”

The guideline separates treatment options into medications for acute headache and preventive medications. Non-pharmacological treatments and biobehavioral measures are not addressed.

Once the diagnosis of migraine headache is established, a comprehensive treatment program should be implemented. Treatment options include use of acute or episodic medications, prophylactic or preventive agents, and non-pharmacological or bio-behavioral interventions.

General principles of management and treatment of headache in children, adolescents, and adults:
• Reduction of headache frequency, severity, duration, and disability
• Reduction of reliance on poorly tolerated, ineffective, or unwanted acute pharmacotherapies
• Improvement in the quality of life
• Avoidance of acute headache medication escalation
• Education and enablement of patients to manage their disease to enhance personal control of their migraine
• Reduction of headache-related distress and psychological symptoms

Please refer to the full guideline for detailed findings and supporting evidence at www.aan.com/professionals/practice/index.cfm.

Acute treatment of migraine headache

Principles for treatment of acute migraine headache in children and adolescents:
• Treat attacks rapidly and consistently
• Minimize the use of back-up and rescue medications
• Be cost-effective for overall management
• Restore the patient’s ability to function
• Optimize self-care and reduce subsequent use of resources
• Have minimal or no adverse events

SUMMARY OF RECOMMENDATIONS FOR THE ACUTE TREATMENT OF MIGRAINE IN CHILDREN AND ADOLESCENTS

Strong evidence supports
• Ibuprofen is effective and should be considered for the acute treatment of migraine in children. (Class I*, Level A**)
• Sumatriptan nasal spray is effective and should be considered for the acute treatment of migraine in adolescents. (Class I, Level A)

Good evidence supports
• Acetaminophen is probably effective and should be considered for the acute treatment of migraine in children. (Class I, Level B)

Evidence is insufficient to support or refute
• There is no supporting data for the use of any oral “triptan” preparations in children or adolescents. (Class IV, Level U)
• There is inadequate data to make a judgment on the efficacy of subcutaneous sumatriptan. (Class IV, Level U)
Preventive treatment of migraine headache

Principles for preventive treatment migraine headache in children and adolescents

• Reduce attack frequency, severity, and duration
• Improve function, reduce disability, and improve the patient’s quality of life
• Improve responsiveness to treatment of acute attacks

SUMMARY OF RECOMMENDATIONS FOR PREVENTIVE THERAPY OF MIGRAINE IN CHILDREN AND ADOLESCENTS

Good evidence supports

• Flunarizine is probably effective for preventive therapy and can be considered for this purpose but it is not available in the United States. (Class I, Level B)
• Pizotifen and nimodipine (Class I, Level B) and clonidine (Class II, Level B) did not show efficacy and are not recommended.

Evidence is insufficient to support or refute

• There is insufficient evidence to make any recommendations concerning the use of cyproheptadine, amitriptyline, divalproex sodium, topiramate, or levetiracetam. (Class IV, Level U)
• Recommendations cannot be made concerning propranolol or trazodone for preventive therapy as the evidence is conflicting. (Class II, Level U)

The practice parameter closes with the statement: “Failure of an agent for either the acute or preventive treatment to demonstrate efficacy to a statistically significant degree does not imply that these medications have no role in the pediatric population and their use must be based upon good clinical judgment.”

View the following additional AAN child neurology guidelines at www.aan.com/professionals/practice/index.cfm

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This guideline summary is evidence-based. The AAN uses the following definitions for the level of recommendation and classification of evidence. "Class of evidence for therapy: "Class" refers to the quality of research methods employed in the reviewed literature. Class I: Evidence provided by a 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 drop-outs and crossovers with numbers sufficiently low to have minimal potential for bias; and (d) relevant baseline characteristics are presented and substantially equivalent among treatment groups or there is appropriate statistical adjustment for differences. Class II: Evidence provided by a prospective matched group cohort study in a representative population with masked outcome assessment that meets a-d above OR a randomized control trial in a representative population that lacks one criteria a-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.

"Recommendation Level: "Level" refers to the strength of the practice recommendation based on the reviewed literature. Level A: Established as effective, ineffective or harmful for the given condition in the specified population. Level B: Probably effective, ineffective or harmful (or probably useful/predictive or not useful/predictive) for the given condition in the specified population. Level C: Possibly effective, ineffective or harmful (or possibly useful/predictive or not useful/predictive) for the given condition in the specified population. Level U: Data inadequate or conflicting; given current knowledge, treatment is unproven.

This is an educational service of the American Academy of Neurology. It is designed to provide members with evidence-based guideline recommendations to assist with decision-making in patient care. It is based on an assessment of current scientific and clinical information, and is not intended to exclude any reasonable alternative methodologies. The AAN recognizes that specific patient care decisions are the prerogative of the patient and the physician caring for the patient, based on the circumstances involved. Physicians are encouraged to carefully review the full AAN guidelines so they understand all recommendations associated with care of these patients.

Copies of this summary and additional companion tools are available at www.aan.com/professionals/practice/index.cfm or through AAN Member Services at (800) 879-1960.