Complete Summary

GUIDELINE TITLE

Practice parameter: Screening and diagnosis of autism. Report of the Quality Standards Subcommittee of the American Academy of Neurology and the Child Neurology Society.

BIBLIOGRAPHIC SOURCE(S)

Filipek PA, Accardo PJ, Ashwal S, Baranek GT, Cook EH Jr, Dawson G, Gordon B, Gravel JS, Johnson CP, Kallen RJ, Levy SE, Minshew NJ, Ozonoff S, Prizant BM, Rapin I, Rogers SJ, Stone WL, Teplin SW, Tuchman RF, Volkmar FR. Practice parameter: screening and diagnosis of autism: report of the Quality Standards Subcommittee of the American Academy of Neurology and the Child Neurology Society. Neurology 2000 Aug 22;55(4):468-79. [101 references] PubMed

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SCOPE

DISEASE/CONDITION(S)

Autism (also known as autistic spectrum disorder)

GUIDELINE CATEGORY

Diagnosis
Evaluation
Screening

CLINICAL SPECIALTY

Family Practice
Neurology
Pediatrics

INTENDED USERS

Physicians

GUIDELINE OBJECTIVE(S)

- To review the available empirical evidence and give specific recommendations for the identification of children with autism

TARGET POPULATION

Infants and children

INTERVENTIONS AND PRACTICES CONSIDERED

Developmental Surveillance and Screening:

1. Developmental surveillance at all well-child visits from infancy through school-age and at any age thereafter if concerns are raised
2. Use of developmental screening tools, such as, Ages and Stages Questionnaire, the BRIGANCE(R) Screens, the Child Development Inventories, and the Parents' Evaluations of Developmental Status (Note: The Denver Developmental Screening Test-II and the Revised Denver Pre-Screening Developmental Questionnaire were considered but not recommended)
3. Assessment of conventional developmental milestones, especially language and social skills milestones
4. Autism screening using validated instruments, such as the Checklist for Autism in Toddlers (CHAT) or the Autism Screening Questionnaire
5. Audiologic assessment to include audiometric measures, assessment of middle ear function, and electrophysiologic procedures (e.g., frequency-specific auditory brainstem response)
6. Lead screening

Diagnosis and Evaluation:

1. Diagnostic parental interviews, including The Gilliam Autism Rating Scale, the Parent Interview for Autism, the Pervasive Developmental Disorders Screening Test-Stage 3 and the Autism Diagnostic Interview-Revised
2. Use of diagnostic observation instruments, such as the Childhood Autism Rating Scale, the Screening Tool for Autism in Two-Year-Olds, and the Autism Diagnostic Observation Schedule-Generic
3. Medical and neurologic evaluation, including perinatal and developmental history, longitudinal measurements of head circumference and examination for unusual features suggesting the need for genetic evaluation; neurocutaneous abnormalities (requiring an ultraviolet [Wood's] lamp examination); gait; tone; reflexes; cranial nerves; and determination of mental status, including verbal and nonverbal language and play
4. Ongoing evaluation and monitoring of autism
5. Speech, language, and communication evaluations
6. Cognitive and adaptive behavior evaluations, such as the Vineland Adaptive Behavior Scales and the Scales of Independent Behavior-Revised

7. Evaluation of sensorimotor skills by a qualified experienced professional (occupational therapist or physical therapist), including assessment of gross and fine motor skills, praxis, sensory processing abilities, unusual or stereotyped mannerisms
8. Neuropsychologic, behavioral, and academic assessments
9. Genetic testing, such as, high-resolution chromosome studies/karyotype, and DNA analysis for Fragile X
10. Selective metabolic testing for inborn errors in amino acids, carbohydrate, purine, peptide, and mitochondrial metabolism
11. Electroencephalogram (EEG)
12. Recording of event-related potentials and magnetoencephalography (considered but not recommended)
13. Clinical neuroimaging, such as computed tomography, magnetic resonance imaging, positron-emission tomography, single-photon computed tomography, and functional magnetic resonance imaging (considered but not recommended)
14. Other tests, such as hair analysis, celiac antibodies, allergy testing (particularly food allergies for gluten, casein, Candida, and other molds), immunologic or neurochemical abnormalities, micronutrients (vitamin levels), intestinal permeability studies, stool analysis, urinary peptides, mitochondrial disorders (including lactate and pyruvate), thyroid function tests, or erythrocyte glutathione peroxidase studies (considered but not recommended)

MAJOR OUTCOMES CONSIDERED

Sensitivity and specificity of autism screening and diagnostic instruments

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

Evidence reviewed for this parameter was identified through literature searches using MEDLINE and PsychINFO. Relevant articles were included from all languages using the following search terms: autistic; OR autism; OR pervasive, and NOT treatment. This search produced over 4,000 citations, from which 2,750 studies met the following inclusion criteria: clinical papers published since 1990; review papers and meta-analyses developed for the Diagnostic and Statistical Manual of Mental Disorders, 4th edition (Washington, DC: American Psychiatric Association, 1994); and the overview of the National Institutes of Health State of the Science Conference on Autism in 1995. Relevant book chapters and books were also included, as identified by the expert panel.

NUMBER OF SOURCE DOCUMENTS

The search produced over 4,000 citations, from which 2,750 studies met inclusion criteria.

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

Ratings for the Quality of the Evidence:

Class I. Must have all of a through d. (a) Prospective study of a well-defined cohort which includes a description of the nature of the population, the inclusion/exclusion criteria, demographic characteristics such as age and sex, and seizure type. (b) The sample size must be adequate with enough statistical power to justify a conclusion or for identification of subgroups for whom testing does or does not yield significant information. (c) The interpretation of evaluations performed must be done blinded to outcome. (d) There must be a satisfactory description of the technology used for evaluations (e.g., electroencephalogram, magnetic resonance imaging).

Class II. Must have a or b. (a) Retrospective study of a well-defined cohort which otherwise meets criteria for class 1a, b and 1d. (b) Prospective or retrospective study which lacks any of the following: adequate sample size, adequate methodology, a description of inclusion/exclusion criteria, and information such as age, sex and characteristics of the seizure.

Class III. Must have a or b. (a) A small cohort or case report. (b) Relevant expert opinion, consensus, or survey. A cost-benefit analysis or a meta-analysis may be class I, II, or III, depending on the strength of the data upon which the analysis is based.

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Experts in the surveillance/screening and diagnosis of autism were selected by 11 professional organizations and convened in June 1998 and January 1999. They reviewed and evaluated the quality of the evidence from the published literature, developed a consensus of evidence-based management recommendations, and published a comprehensive background paper on the surveillance, screening, and diagnosis of autism (Filipek PA, Accardo PJ, Baranek GT, et al. The screening and diagnosis of autistic spectrum disorders. J Autism Dev Disord 1999;29:437-82).

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

In addition to evidence-based recommendations, the guideline developer presents consensus-based recommendations regarding general principles of management. Those recommendations are based on consensus agreement by the participating organizations involved in the development of the guideline.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Definitions for Strength of Recommendations:

Standard. A principle for patient management that reflects a high degree of clinical certainty (usually requires one or more Class I studies that directly address the clinical question, or overwhelming Class II evidence when circumstances preclude randomized clinical trials).

Guideline. A recommendation for patient management that reflects moderate clinical certainty (usually requires one or more Class II studies or a strong consensus of Class III evidence).

Practice Option. Strategy for patient management for which clinical utility is uncertain (inconclusive or conflicting evidence or opinion).

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

Not stated

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Recommendations are presented in three sections. The first two sections, titled "Level One: Routine Developmental Surveillance and Screening Specifically for Autism," and "Level Two: Diagnosis and Evaluation of Autism," give recommendations linked to specific evidence. Definitions of the strength of the recommendations (Standard, Guideline, Practice Option) and strength of the evidence (Class I, Class II, Class III) are provided at the end of the "Major Recommendations" field. The third section, titled "Consensus-Based General

Principles of Management," presents additional recommendation based on broad consensus.

Level One: Evidence-Based Recommendations for Routine Developmental Surveillance and Screening Specifically for Autism

Clinical Practice Recommendations:

1. Developmental surveillance should be performed at all well-child visits from infancy through school-age, and at any age thereafter if concerns are raised about social acceptance, learning, or behavior (Guideline).
2. Recommended developmental screening tools include the Ages and Stages Questionnaire, the BRIGANCE(R) Screens, the Child Development Inventories, and the Parents' Evaluations of Developmental Status (Guideline).
3. Because of the lack of sensitivity and specificity, the Denver-II (DDST-II) and the Revised Denver Pre-Screening Developmental Questionnaire (R-DPDQ) are not recommended for appropriate primary-care developmental surveillance (Guideline).
4. Further developmental evaluation is required whenever a child fails to meet any of the following milestones (Guideline): babbling by 12 months; gesturing (e.g., pointing, waving bye-bye) by 12 months; single words by 16 months; two-word spontaneous (not just echolalic) phrases by 24 months; loss of any language or social skills at any age.
5. Siblings of children with autism should be carefully monitored for acquisition of social, communication, and play skills, and the occurrence of maladaptive behaviors. Screening should be performed not only for autism-related symptoms but also for language delays, learning difficulties, social problems, and anxiety or depressive symptoms (Guideline).
6. Screening specifically for autism should be performed on all children failing routine developmental surveillance procedures using one of the validated instruments: the Checklist for Autism in Toddlers (CHAT) or the Autism Screening Questionnaire (Guideline).
7. Laboratory investigations recommended for any child with developmental delay and/or autism include audiologic assessment and lead screening (Guideline). Early referral for a formal audiologic assessment should include behavioral audiometric measures, assessment of middle ear function, and electrophysiologic procedures using experienced pediatric audiologists with current audiologic testing methods and technologies (Guideline). Lead screening should be performed in any child with developmental delay and pica. Additional periodic screening should be considered if the pica persists (Guideline).

Level Two: Evidence-Based Recommendations for Diagnosis and Evaluation for Autism

Clinical Practice Recommendations:

1. Genetic testing in children with autism, specifically high resolution chromosome studies (karyotype) and DNA analysis for Fragile X, should be performed in the presence of mental retardation (or if mental retardation cannot be excluded), if there is a family history of Fragile X or undiagnosed mental retardation, or if dysmorphic features are present (Standard).

However, there is little likelihood of positive karyotype or Fragile X testing in the presence of high-functioning autism.

2. Selective metabolic testing (Standard) should be initiated by the presence of suggestive clinical and physical findings such as the following: if lethargy, cyclic vomiting, or early seizures are evident; the presence of dysmorphic or coarse features; evidence of mental retardation or if mental retardation cannot be ruled out; or if occurrence or adequacy of newborn screening for a birth is questionable.
3. There is inadequate evidence at the present time to recommend an electroencephalogram study in all individuals with autism. Indications for an adequate sleep-deprived electroencephalogram with appropriate sampling of slow wave sleep include (Guideline) clinical seizures or suspicion of subclinical seizures, and a history of regression (clinically significant loss of social and communicative function) at any age, but especially in toddlers and preschoolers.
4. Recording of event-related potentials and magnetoencephalography are research tools at the present time, without evidence of routine clinical utility (Guideline).
5. There is no clinical evidence to support the role of routine clinical neuroimaging in the diagnostic evaluation of autism, even in the presence of megalencephaly (Guideline).
6. There is inadequate supporting evidence for hair analysis, celiac antibodies, allergy testing (particularly food allergies for gluten, casein, Candida, and other molds), immunologic or neurochemical abnormalities, micronutrients such as vitamin levels, intestinal permeability studies, stool analysis, urinary peptides, mitochondrial disorders (including lactate and pyruvate), thyroid function tests, or erythrocyte glutathione peroxidase studies (Guideline).

Consensus-Based General Principles of Management

The following recommendations are based on consensus agreement by the participating organizations involved in the development of this parameter.

Surveillance and Screening

In the United States, states must follow federal Public Law 105-17: the Individuals with Disabilities Education Act Amendments of 1997–IDEA'97, which mandates immediate referral for a free appropriate public education for eligible children with disabilities from the age of 36 months, and early intervention services for infants and toddlers with disabilities from birth through 35 months of age.

Diagnosis

The diagnosis of autism should include the use of a diagnostic instrument with at least moderate sensitivity and good specificity for autism. Sufficient time should be planned for standardized parent interviews regarding current concerns and behavioral history related to autism, and direct, structured observation of social and communicative behavior and play. Recommended instruments include:

Diagnostic Parental Interviews

- The Gilliam Autism Rating Scale

- The Parent Interview for Autism
- The Pervasive Developmental Disorders Screening Test-Stage 3
- The Autism Diagnostic Interview-Revised

Diagnostic Observation Instruments

- The Childhood Autism Rating Scale
- The Screening Tool for Autism in Two-Year-Olds
- The Autism Diagnostic Observation Schedule-Generic

Medical and Neurologic Evaluation

Perinatal and developmental history should include milestones; regression in early childhood or later in life; encephalopathic events; attentional deficits; seizure disorder (absence or generalized); depression or mania; and behaviors such as irritability, self-injury, sleep and eating disturbances, and pica. The physical and neurologic examination should include: longitudinal measurements of head circumference and examination for unusual features (facial, limb, stature, etc.) suggesting the need for genetic evaluation; neurocutaneous abnormalities (requiring an ultraviolet [Wood's] lamp examination); gait; tone; reflexes; cranial nerves; and determination of mental status, including verbal and nonverbal language and play.

Evaluation and Monitoring of Autism

The immediate and long-term evaluation and monitoring of autistic individuals requires a comprehensive multi-disciplinary approach, and can include one or more of the following professionals: psychologists, neurologists, speech-language pathologists and audiologists, pediatricians, child psychiatrists, occupational therapists, and physical therapists, as well as educators and special educators. Individuals with mild autism should also receive adequate assessments and appropriate diagnoses.

Reevaluation within 1 year of initial diagnosis and continued monitoring is an expected aspect of clinical practice because relatively small changes in the developmental level affect the impact of autism in the preschool years. In general, there is no need to repeat extensive diagnostic testing; however, follow-up visits can be helpful to address behavioral, environmental, and other developmental concerns.

Speech, Language, and Communication Evaluation

A comprehensive speech-language-communication evaluation should be performed on all children who fail language developmental screening procedures by a speech-language pathologist with training and expertise in evaluating children with developmental disabilities. Comprehensive assessments of both pre-verbal and verbal individuals should account for age, cognitive level, and socioemotional abilities, and should include assessment of receptive language and communication, expressive language and communication, voice and speech production, and in verbal individuals, a collection and analysis of spontaneous language samples to supplement scores on formal language tests.

Cognitive and Adaptive Behavior Evaluations

Cognitive evaluations should be performed in all children with autism by a psychologist or other trained professional. Cognitive instruments should be appropriate for the mental and chronological age, provide a full range (in the lower direction) of standard scores and current norms independent of social ability, include independent measures of verbal and nonverbal abilities, and provide an overall index of ability. A measure of adaptive functioning should be collected for any child evaluated for an associated cognitive handicap. Consensus-based recommendations for using specific instruments include the Vineland Adaptive Behavior Scales and the Scales of Independent Behavior-Revised.

Sensorimotor and Occupational Therapy Evaluations

Evaluation of sensorimotor skills by a qualified experienced professional (occupational therapist or physical therapist) should be considered, including assessment of gross and fine motor skills, praxis, sensory processing abilities, unusual or stereotyped mannerisms, and the impact of these components on the autistic person's life. An occupational therapy evaluation is indicated when deficits exist in functional skills or occupational performance in the areas of play or leisure, self-maintenance through activities of daily living, or productive school and work tasks. Although not routinely warranted as part of all evaluations of children with autism, the Sensory Integration and Praxis Tests may be used on an individual basis to detect specific patterns of sensory integrative dysfunction.

Neuropsychological, Behavioral, and Academic Assessment

These assessments should be performed as needed, in addition to the cognitive assessment, to include social skills and relationships, educational functioning, problematic behaviors, learning style, motivation and reinforcement, sensory functioning, and self-regulation. Assessment of family resources should be performed by appropriate psychologists or other qualified health care professionals and should include assessment of parents' level of understanding of their child's condition, family (parent and sibling) strengths, talents, stressors and adaptation, resources and supports, as well as offer appropriate counseling and education.

Definitions:

Strength of the Recommendations:

Standard. A principle for patient management that reflects a high degree of clinical certainty (usually requires one or more Class I studies that directly address the clinical question, or overwhelming Class II evidence when circumstances preclude randomized clinical trials).

Guideline. A recommendation for patient management that reflects moderate clinical certainty (usually requires one or more Class II studies or a strong consensus of Class III evidence).

Practice Option. Strategy for patient management for which clinical utility is uncertain (inconclusive or conflicting evidence or opinion).

Quality of the Evidence:

Class I. Must have all of a through d. (a) Prospective study of a well-defined cohort which includes a description of the nature of the population, the inclusion/exclusion criteria, demographic characteristics such as age and sex, and seizure type. (b) The sample size must be adequate with enough statistical power to justify a conclusion or for identification of subgroups for whom testing does or does not yield significant information. (c) The interpretation of evaluations performed must be done blinded to outcome. (d) There must be a satisfactory description of the technology used for evaluations (e.g., electroencephalogram, magnetic resonance imaging).

Class II. Must have a or b. (a) Retrospective study of a well-defined cohort which otherwise meets criteria for class 1a, b and 1d. (b) Prospective or retrospective study which lacks any of the following: adequate sample size, adequate methodology, a description of inclusion/exclusion criteria, and information such as age, sex and characteristics of the seizure.

Class III. Must have a or b. (a) A small cohort or case report. (b) Relevant expert opinion, consensus, or survey. A cost-benefit analysis or a meta-analysis may be class I, II, or III, depending on the strength of the data upon which the analysis is based.

CLINICAL ALGORITHM(S)

An algorithm is provided in the original guideline document for routine developmental surveillance and the diagnosis and evaluation of autism.

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

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

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Identifying children with autism and initiating intensive, early intervention during the preschool years results in improved outcomes for most young children with autism. Early diagnosis of autism and early intervention facilitates earlier educational planning, provisions for family supports and education, management of family stress and anguish, and delivery of appropriate medical care and treatment.

POTENTIAL HARMS

Not stated

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

The Quality Standards Subcommittee of the American Academy of Neurology seeks to develop scientifically sound, clinically relevant practice parameters for the practice of neurology. Practice parameters are strategies for patient management that assist physicians in clinical decision making. A practice parameter is one or more specific recommendations based on analysis of evidence of a specific clinical problem. These might include diagnosis, symptoms, treatment, or procedure evaluation. This evidence-based review addresses the major management issues health care providers face in surveying, screening, and diagnosing children with autism.

The clinical evidence is reviewed, management recommendations provided, and areas of continued research identified. This statement is provided as an educational service of the American Academy of Neurology. 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 choosing to use a specific procedure. Neither is it intended to exclude any reasonable alternative methodologies. The American Academy of Neurology recognizes that specific patient care decisions are the prerogative of the patient and the physician caring for the patient, based on all of the circumstances involved.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

RELATED QUALITY TOOLS

- American Academy of Neurology (AAN) Guideline Summary for Clinicians: Screening and Diagnosis of Autism

- American Academy of Neurology (AAN) Guideline Summary for Parents and Caregivers: Screening and Diagnosing Children with Autism

- Practice Parameter: Screening and Diagnosis of Autism Slide Presentation

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Living with Illness

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Filipek PA, Accardo PJ, Ashwal S, Baranek GT, Cook EH Jr, Dawson G, Gordon B, Gravel JS, Johnson CP, Kallen RJ, Levy SE, Minshew NJ, Ozonoff S, Prizant BM, Rapin I, Rogers SJ, Stone WL, Teplin SW, Tuchman RF, Volkmar FR. Practice parameter: screening and diagnosis of autism: report of the Quality Standards Subcommittee of the American Academy of Neurology and the Child Neurology Society. Neurology 2000 Aug 22;55(4):468-79. [101 references] PubMed

ADAPTATION

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

DATE RELEASED

2000 Aug

GUIDELINE DEVELOPER(S)

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

SOURCE(S) OF FUNDING

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GUIDELINE COMMITTEE

Quality Standards Subcommittee

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

American Academy of Neurology (AAN) Quality Standards Subcommittee Members: Gary Franklin, MD, MPH (Co-Chair); Catherine A. Zahn, MD (Co-Chair); Milton Alter, MD, PhD; Stephen Ashwal, MD (facilitator); John Calverley, MD; Richard Dubinsky, MD; Jacqueline French, MD; Michael Glantz, MD; Michael K. Greenberg, MD; Gary Gronseth, MD; Deborah Hirtz, MD; Robert G. Miller, MD; James Stevens, MD; William Weiner, MD; and Wendy Edlund, AAN Manager, Clinical Practice Guidelines.

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Representatives were named from the following associations: Barbara Cutler, EdD, and Susan Goodman, JD (Autism National Committee); Cheryl Trepagnier, PhD (Autism Society of America); Daniel H. Geschwind, MD, PhD (Cure Autism Now); and Charles T. Gordon, MD (National Alliance for Autism Research). The National Institutes of Health also named liaisons to serve on this committee, including Marie Bristol–Power, PhD (National Institute of Child Health and Human Development); Judith Cooper, PhD (National Institute of Deafness and Communication Disorders); Judith Rumsey, PhD (National Institute of Mental Health); and Giovanna Spinella, MD (National Institute of Neurological Disorders and Stroke).

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

The authors and coauthors have read and agree with the content of this publication and acknowledge their compliance with the "Disclosure" requirements of Neurology. There is no pertinent financial interest of any author (i.e., ownership, equity position, stock options, patent-licensing arrangements), consulting fees, or honoraria associated with this publication or its products.

ENDORSER(S)

American Academy of Audiology - Medical Specialty Society
American Academy of Pediatrics - Medical Specialty Society
American Occupational Therapy Association, Inc. - Professional Association
American Speech-Language-Hearing Association - Professional Association
Autism National Committee - Private Nonprofit Organization
Cure Autism Now - Private Nonprofit Organization
National Alliance for Autism Research - Private Nonprofit Organization
Society for Developmental and Behavioral Pediatrics - Professional Association

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 are available:

- Filipek PA, Accardo PJ, Baranek GT, et al. The screening and diagnosis of autistic spectrum disorders. J Autism Dev Disord 1999;29:437–482 (Background paper).
- Practice statement definitions. St. Paul (MN): American Academy of Neurology.
- Practice statement development. St. Paul (MN): American Academy of Neurology.

The following are also available:

- American Academy of Neurology (AAN) guideline summary for clinicians: screening and diagnosis of autism. St. Paul (MN): American Academy of Neurology (AAN); 2000 Aug. 2 p.

  Electronic copies: Available in Portable Document Format (PDF) from the AAN Web site.

- Practice parameter: screening and diagnosis of autism slide presentation. St. Paul (MN): American Academy of Neurology (AAN); 2000 Aug.

  Electronic copies: Available in a Power Point presentation from the AAN Web site.

PATIENT RESOURCES

The following is available:

- American Academy of Neurology (AAN) guideline summary for parents and caregivers: screening and diagnosing children with autism. St. Paul (MN): American Academy of Neurology (AAN); 2000 Aug. 2 p.

Electronic copies: Available in Portable Document Format (PDF) from the AAN Web site.

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC STATUS

This NGC summary was completed by ECRI on November 4, 2001. The information was verified by the guideline developer as of December 20, 2001.

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