Autism Spectrum Disorder: Diagnosis and Treatment

Screening

Screening for ASD should be done as a part of routine well-baby checks and ongoing developmental monitoring. Primary care providers (PCPs) should screen all children from birth to age 5 for autism and other developmental delays by:

- Assessing vision and hearing
- Directly observing the child in structured and unstructured settings
- Evaluating cognitive functioning (verbal and nonverbal)
- Assessing adaptive functioning
- Discussing with the parents any concerns they have, as they are usually the first to notice that something is not progressing as it should
- Asking the parents direct questions regarding the child's functioning if the PCP has a concern

Screening assessment tools are available, and can be useful in determining the need for further evaluation and assessment, however they are not intended for sole use in making a diagnosis. These screening tools include:

- Pervasive Developmental Disorders Screening Test – II (PDDST-II) for children from birth to three years old
- Checklist of Autism in Toddlers (CHAT) for 18-month-old children
- Autism Behavior Checklist (ABC), completed by parents or caregiver
- Childhood Autism Rating Scale (CARS), clinician-rated tool for use with children

NOTE: Diagnostic testing and treatments may be subject to state specific and other regulatory mandates.

USPSTF Draft Recommendation Statement on ASD in Young Children: Screening. There has been no change in Health Net’s policy as a result of this draft recommendation.

Health Net, Inc. considers the screening, diagnosis and treatment of Autism Spectrum Disorder (ASD) medically necessary as outlined below.
over two, evaluates body movements, adaptation to change, listening response, verbal communication and relatedness to people
o Modified Checklist for Autism in Toddlers (M-CHAT) for two-year-olds
o Screening Test for Autism in Two-Year-Olds (STAT)
o Social Communication Questionnaire (SCQ) for children age four and over.

II. Diagnostic Evaluation
The diagnosis of ASD is based on a coordinated effort by a team of medical and behavioral health specialists working closely with the parents. The team generally includes the child’s PCP or a behavioral pediatrician, a child psychiatrist, a speech and language pathologist and other ancillary clinical specialists as needed. These can include:

- A child psychologist
- A neurologist
- An audiologist
- An occupational therapist
- A physical therapist
- A special education teacher
- A medical geneticist

A thorough evaluation should include the following:

- Parent and/or caregiver interview, including siblings of the child with suspected ASD. This should include:
  - Pre- and Perinatal history
  - Past medical history, review of systems
  - Developmental and behavioral history
  - Academic history if child is of school age
  - Family medical and mental health history
  - Family functioning
  - Coping resources

- Comprehensive medical evaluation that should include:
  - A complete medical history, review of past records and interviews with family and child
  - A thorough physical that includes a careful neurological exam
  - A Wood’s lamp examination of the skin for signs of tuberous sclerosis
  - Routine visual screening
  - Measurement of blood lead level if the child exhibits developmental delay and pica, or lives in a high-risk environment
  - Quantitative plasma amino acid testing to detect phenylketonuria
  - Chromosomal microarray genetic testing
  - Additional laboratory and other tests should be conducted based on clinical history, physical examination and family history, including
    - Metabolic testing: work-up for inborn errors in metabolism other than phenylketonuria if clinical and physical findings suggestive of a metabolic disorder are present and/or mental retardation is suspected.
    - Additional genetic testing, specifically high resolution chromosome analysis (karyotype) and DNA analysis for fragile X syndrome in the presence of suspected mental retardation, a family history of fragile X syndrome or family history of mental retardation of unknown etiology
    - Sleep-deprived EEG should be considered only if the child exhibits seizures or is suspected of having subclinical seizures
Direct observation of the child with focus on social interaction and restrictive, repetitive behaviors
Comprehensive evaluation by a speech-language pathologist that includes vocabulary, actual language use skills, both receptive and expressive, articulation and oral-motor skills.
Formal hearing evaluation including frequency-specific brainstem auditory evoked response
Evaluation of the child’s cognitive and adaptive functioning, including:
  - An assessment, including a full mental status examination by a child psychiatrist to check for possible comorbid conditions or to prevent an erroneous diagnosis
  - Intelligence and adaptive skills testing by a child psychologist, as mental retardation frequently accompanies ASD and to establish priorities for interventions
  - Psychological and Neuropsychological testing if there is a question regarding the presence of a psychiatric or neurological condition other than, or in addition to, autism
Evaluation of academic achievement for children six years of age or older
Occupation and physical therapy testing if sensory or motor difficulties are present

There are a number of assessment tools that are used by clinicians to assist in the diagnosis of ASDs. These include:

  - Autism Diagnostic Observation Scale – Generic (ADOS-G), “presses” for socio-communicative behaviors often delayed, abnormal or absent in autistic children
  - Diagnostic Interview for Social and Communication Disorders (DISCO) structured interview rated by clinician, for use with children and adults
  - Autism Diagnosis Interview- Revised (ADI-R), structured interview performed with parents or caregiver

III. Treatment

There is no cure for ASD, but they are treatable. The younger the child is at the time of diagnosis and implementation of treatment, the better the outcome will be. The outcome is best for children with good language skills and normal to high IQs who do not have comorbidities such as seizures or psychiatric disorders. While only a small percentage of people with ASD will grow up to live and work independently, each child’s individual potential should be developed as far as possible. Interventions should be selected based on enhancing the child’s existing functional strengths and addressing the learning disability weaknesses.

There is no broad-based consensus on which clinical and academic strategies are most effective, but many interventions have been developed to address the social, language and behavioral/sensory problems that are the core features of ASD. Therefore, clinicians, the school system, other public resources and parents need to work collaboratively in the optimal management of the child’s disorder. Because of the many clinicians, teachers and government agencies that will be involved in the treatment of each child, it is best for one clinician to be the point person in coordinating the overall treatment efforts.

Services that medical clinicians may need to provide, in addition to regular well-child care, include:
- Management of seizure disorder by a neurologist
- Interventions to improve verbal and nonverbal communication skills by a speech-language pathologist
- Physical and occupational therapy for co-morbid physical sensory or motor impairments when medically necessary
- Alternative and augmentative communication aids (e.g., sign language, flashcards, communication boards, etc.) if demonstrated effective for the individual with an ASD

Services that behavioral health clinicians may need to provide include:

- **Psychiatric interventions**
  - Evaluation for comorbid conditions, which are not infrequent in children with ASD
  - Medication management for specific target symptoms or comorbid conditions
    - There is evidence that two atypical antipsychotics, risperidone (Risperdal), aripiprazole (Abilify) as well as the SSRI antidepressant fluoxetine (Prozac) can be effective in managing repetitive and stereotypic behaviors. These can also assist with managing challenging behaviors such as aggression, irritability and self-injury in children with ASD. However, the atypical agents in particular have significant side effects, including weight gain and extrapyramidal symptoms, which can limit their use.
    - Other SSRIs have been used to attempt to manage both anxiety and repetitive behaviors, but there is as yet insufficient evidence to support the effectiveness of these agents for this use.
    - Psychostimulants have been used to manage symptoms of inattention and hyperactivity, however there is as yet insufficient evidence to support the effectiveness of the use of these agents for this purpose in children with ASD who do not have comorbid ADHD. There is also some evidence that children with ASD who respond positively to psychostimulants have more problems with side effects than children who do not have an ASD.
      - Inpatient hospitalization if there is an acute onset of aggression towards others or danger to self.

- **Psychotherapeutic interventions**
  - Family therapy to help parents and siblings cope with the diagnosis and the child’s behaviors
  - Brief psychotherapy to teach behavioral modification techniques to parents to assist in managing their child.
  - Individual cognitive-behavioral psychotherapy (CBT) for adolescent and young adult individuals with an ASD who are capable of insight and who become anxious and/or depressed when they realize the seriousness of their impairment, or for anger management.

**Early Intervention Programs**

Behavioral interventions, such as Applied Behavioral Analysis (ABA), are derived from basic and empirically supported learning principles can be used in the home or be provided in the school setting to help the child learn more appropriate behavior as well as becoming a better academic learner. Schools, Regional Centers, Health Net and other entities working with the family should coordinate diagnostic and treatment services needed by a child with an ASD so that they are provided in the appropriate setting.

Health Net considers ABA and other related teaching interventions as educational in nature and therefore does not consider these techniques to be medical treatment. However,
several states now require that health plans cover ABA and/or related services. Health Net/MHN has developed policies and procedures for use in reviewing and authorizing such services when so mandated.

<table>
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<tr>
<th>Where state mandates require that health plans cover ABA and/or related services, Health Net/MHN has developed policies that procedures related to the following requirements:</th>
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<tbody>
<tr>
<td>• Verification that an accurate diagnosis of an ASD has been made prior to authorization of services or notification of services, where applicable</td>
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<tr>
<td>• Evidence that a complete behavioral analysis has been completed Treatment is provided by qualified autism providers</td>
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<tr>
<td>• Evidence that the overall treatment plan, including ABA, plan is tailored to the individual, has a real potential to be of benefit, targets specific behaviors or learning deficits and clearly lays out a date by which each goal is expected to be attained</td>
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<tr>
<td>• Periodic review of progress made, or not made, toward goals at a minimum of a 6-month, and maximum of 12-month, intervals</td>
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**The Public School System**
An important potential source of help for children with autism is the public school system. Under Federal Public Law 94-142 (the Individuals with Disabilities Education Acts of 1990 and 1997), each school is supposed to provide handicapped children with a free, appropriate education through the age of 21. The school is supposed to evaluate each child and, with the parents, develop an Individual Education Plan (IEP) for him or her. The evaluation may include:

- Developmental and intelligence testing
- Neuropsychological and/or educational achievement testing
- Adaptive skills testing, which is essential to document the presence of associated mental retardation and to establish priorities for interventions
- Speech, language and communication testing that include vocabulary, actual language use skills, both receptive and expressive, articulation and oral-motor skills.
- Pragmatic skills testing to determine the child's level of communication skills relative to social contexts
- Occupation and physical therapy testing if sensory hyper- or hyposensitivities are present

Once the evaluation is completed and the information is combined with information from other sources, the IEP is developed. The plan should document specific and/or measurable goals and how these will be achieved. The plan will determine the educational setting that is most appropriate for the child. Goals for each child are both academic and behavioral/social and the educational setting needs to address both. The IEP is revisited on a regular basis over time to allow for changes to be made in response to the child's progress or the presentation of new difficulties.

Two structured educational models provided by some schools have been found to have efficacy for children with ASD. These are the Early Denver Start Model and the Treatment and Education of Autism and related communication Handicapped Children (TEACCH) program.
Unfortunately, the level of services the public school system is able to provide varies considerably not only from state to state, from school district to school district within each state, mainly due to funding issues. It is important, therefore, that medical and behavioral health clinicians who treat children with ASD are familiar with the services offered by the school system in their local areas.

Parents

Parent training and education should be an ongoing part of any intervention program. Parents need to learn about positive reinforcement and how to use behavioral strategies. The same behavioral strategy needs to be used in the home, school or pre-school setting, so parents, teachers and caregivers need to work together to ensure consistency. All children’s needs change as they grow, so the behavioral strategy will need to be modified over time to meet new needs.

The parents, caregivers and siblings of an autistic child need support and respite. There are a number of organizations, such as the Autism Society of America, that provide ongoing support and education.

The federal government, through Part C of the Individuals with Disabilities Education Act, mandates an Early Intervention (EI) program to find and treat children with special needs who are under 3 years old. The programs vary from state to state but the package of services available is consistent, requiring access and programming in a natural setting such as the home or another place familiar to the child. All services are free of charge, independent of the family’s income.

To locate the EI in each state go to: http://www.parentcenterhub.org/repository/partc/
then select a state and click on State Agencies.

Genetic counseling should be strongly considered for parents whose child’s autism is associated with a defined etiology such as fragile X syndrome.

Alternative/complimentary Medicine

It is not uncommon for families of children with ASD to use alternative or complementary treatments as a part of their own treatment of their child or children, in spite of the fact that these types of approaches have very limited empirical support for their use. The clinician who is treating the child must, therefore, be familiar with these approaches and inquire as to whether or not they are being used. Open, non-judgmental, educational discussions need to take place about the cost of these treatments, the evidence for or against them and which treatments may pose a danger for the child. For example, intravenous infusion of secretin, and oral vitamin B6 and magnesium have repeatedly been shown to not work. Randomized, controlled trials to study the gluten-free, casein-free diet, the use of omega-3 fatty acids and administration of oral human immunoglobulin do not support the use of these approaches. Finally, some treatments pose an actual risk to the child, such as the mortality and morbidity that is associated with chelation. Some “natural” compounds have contaminants that can put the child at risk. Finally, all of these approaches consume resources, both financial and personal.

Other Community Resources

Federal, state and local governments often offer additional and even lifelong services to people with ASD. The best sources of information about these are the Early Intervention
program staff, the local school district or local subspecialty clinic that conducts diagnostic evaluations for autistic children.

IV. Investigational Services
Health Net considers the following investigational for the diagnosis and treatment of ASDs because of the lack of peer-reviewed evidence-based medical literature to support their use.

Investigational Diagnostic Testing

Laboratory, Imaging and other studies that are considered experimental and investigational because the peer-reviewed literature does not support their use include:

- Routine EEG studies
- Allergy testing (especially food allergy for gluten, casein, candida and other molds)
- Erythrocyte glutathione peroxidase studies
- Event-related brain potentials
- Nutritional testing
- Hair analysis for trace elements
- Intestinal permeability studies
- Magnetoencephalography/magnetic source imaging
- Neuroimaging studies such as CT, MRI, MRS, PET, SPECT and fMRI, even in the presence of megalencephaly
- Provocative chelation tests for mercury
- Stool analysis
- Tests for celiac antibodies
- Tests for immunologic or neurochemical abnormalities
- Tests for micronutrients such as vitamin levels
- Tests for mitochondrial disorders including lactate and pyruvate
- Tests for thyroid function
- Tests for urinary peptides

Investigational Treatment

Treatments that are considered investigational and experimental because the peer-reviewed medical literature does not support the use of these procedures or services in the treatment of ASD:

- Auditory integration training (auditory integration therapy)
- Chelation therapy
- Cognitive rehabilitation
- Elimination diets (e.g. gluten and/or milk elimination)
- Facilitated communication
- Holding therapy
- Immune globulin infusion
- Music therapy and rhythmic entrainment interventions
- Pet therapy (e.g., Hippotherapy)
- Nutritional supplements (e.g., megavitamins, high-dose pyridoxine and magnesium, dimethylglycine, omega-3 fatty acids)
- Secretin infusion
- Sensory integration therapy
- Vision therapy
Hyperbaric oxygen therapy

Scientific Rationale

Autism Spectrum Disorder is a developmental disorder that presents in the first few years of life and profoundly interferes with the individual’s lifelong functioning. ASD is characterized by impairment in two core areas:

1. Deficits in social interaction and social communication across multiple contexts, such as
   - Deficits in social reciprocity
   - Deficits in nonverbal communicative behaviors used for social interaction
   - Deficits in developing, maintaining and understanding relationships

2. Restricted, repetitive patterns of behaviors, interests or activities that must include at least two of the following:
   - Stereotyped or repetitive motor movements, use of objects, or speech
   - Insistence on sameness, inflexible adherence to routines, or ritualized patterns of verbal or nonverbal behavior
   - Highly restricted interests, fixated interests that are abnormal in intensity or focus
   - Hyper- or hyporeactivity to sensory input or unusual interest in sensory aspects of the environment

The degree of impairment in these areas varies widely from child to child.

The 2011 Interagency Autism Coordinating Committee Strategic Plan for Autism Spectrum Disorder Report dated January 18, 2011, reported that ASD affects an estimated 11.3/1000 children in the United States. The risk is 4-5 times higher in males than in females, however females with autism tend to be more severely intellectually disabled. Compared to the prevalence of other childhood conditions, the rates for mental retardation are 9.7/1000, cerebral palsy is 2.8/1000, hearing loss is 1.1/1000 and vision impairment is 0.9/1000.

The prevalence of ASD is increasing, but it is not clear if this represents an actual increase in the condition, or if other variables are making it appear that way. These include variability in diagnostic criteria and practices, the age of the children screened and where the study was done.

Etiology

The etiology of ASD is unknown. It is a disorder involving multiple and diverse neural systems, but no single unifying explanation exists. There is strong support for ASD being genetically determined, at least in part. The recurrence risk for ASD in siblings (2-18.7%), and even higher concordance in identical twins, provides some of this support. In addition, ASD is associated with other conditions that are known to be inherited, such as fragile X syndrome and tuberous sclerosis. Other genetically determined conditions, such as untreated phenylketonuria and methylmalonic aciduria are associated with ASD-like behaviors.

Environmental factors, such as viruses, are being studied. It used to be thought that parental actions caused autism, but this has never been substantiated and in fact parents are nearly always their autistic child’s most effective advocates. Another environmental agent that has been discredited is thimerosal, a preservative that was used in many vaccines until its use was discontinued in 1999. The main Lancet study that suggested a
The link between thimerosal and autism was found to be flawed and, as a result, the article has been withdrawn from the journal.

Known risk factors are close spacing of pregnancies, older maternal or paternal age and extreme prematurity (less than 36 weeks gestational age).

**Indicators of ASD**

1. The infant does not babble by 12 months; or
2. The infant does not gesture (e.g. pointing, waving bye-bye) by 12 months; or
3. The toddler is not speaking single words by 16 months; or
4. The toddler is not speaking spontaneous two-word phrases by 24 months (not just the immediate and involuntary repetition of words or phrases spoken by others); or
5. The toddler does not respond to their own name
6. Loss of any language of social skills at any age

Other possible indicators:
1. Poor eye contact
2. Not knowing how to play with toys
3. Excessively lines up toys or objects
4. Is attached to one particular toy or object
5. Doesn’t smile
6. At times, seems to be hearing impaired but at other times not

**Symptoms of ASD**

Individuals with an ASD display a range of behaviors that can include:
3. Hyperactivity
4. Short attention span
5. Self-injurious behavior
6. Impulsivity
7. Aggressiveness
8. Temper tantrums, especially in young children or in unfamiliar situations

Individuals with an ASD can experience abnormalities in:
9. Eating (preference for few foods and peculiar tastes)
10. Sleeping (recurrent wakening with rocking)
11. High pain tolerance
12. Oversensitivity to being touched, or to sounds or lights
13. Fascination with certain stimuli or objects
14. Abnormal reaction to danger (lack of response to real dangers but excessive fear of harmless objects)

Most children with an ASD demonstrate impairments in one or more of the three core areas by the age of 18 months. In most cases they seem to be affected from birth, while in others the child appears to develop normally until age one or two and then regresses. However, it is estimated that about half of all cases are not diagnosed until the child is age 4-6, resulting in a delay in an appropriate assessment and implementation of medical treatment and other behavioral strategies.

ASD is often diagnosed when parents become concerned that their child:
15. May be deaf (child is unresponsive to speech, parents’ voices or is not learning to talk)
16. Seeks affection mainly on his or her own terms (fails to cuddle, shows indifference or aversion to affection or physical contact, doesn’t respond to smiles)

17. Seems bored or uninterested in conversation or play going on in those around him or her or has little sense of other people’s boundaries (can be inappropriately intrusive in social situations, as though no one else exists)

18. Does not call attention to things he or she finds interesting (may use parent’s or another person’s hand to obtain a desired object without looking at the person whose hand it is)

Screening for ASD

It has long been the position of specialty groups such as the Academy of Child and Adolescent Psychiatry and the American Pediatric Society as well as the National Institutes of Health and the Centers for Disease Control that all children should be informally screened for ASD at well baby and child examinations, and specifically screened for ASD at 19 and 24 months of age.

In August of 2015, the U.S. Preventive Services Task Force (USPSTF) published its Draft Recommendation Statement Autism Spectrum Disorders: Screening, which stated that current evidence is “insufficient to assess the balance of benefits and harms of screening for autism spectrum disorders (ASD) in children for whom no concerns of ASD have been raised by their parents or clinical provider.” While there has been a firestorm of criticism from various quarters regarding this draft recommendation, it should be noted that it is only a draft that was distributed for comments and that the final recommendation has not yet been published. It should further be noted that no action has been taken as a result of this draft by any professional societies, nor have any evidence-based practice guidelines been modified as a result. Health Net’s policy on screening for ASD remains unchanged as well.

Making and Communicating the Diagnosis

The diagnosis of ASD results from the careful synthesis of all of the clinical data gathered with DSM-5/ICD-10 diagnostic criteria. Differential diagnosis includes other developmental disorders, primary disorders of language and psychiatric disorders.

Even though the parents have known something was “not quite right” with their child, being informed of the diagnosis is devastating. Often they will find it hard to focus on anything said after that, or be unable to ask questions or comprehend what is being recommended as the next step. It is vital that clinicians understand that what they are saying is likely not being heard in its entirety. Providing written information and the names of the clinicians who can be contacted with questions can be of great assistance. It is also useful to suggest that the parents begin to keep a journal in which to write down the many questions they will have in the days and months ahead.

Research

Numerous governmental and private institutions are involved in research on the developmental neurobiology, genetics and psychopharmacology of autism. The largest current coordinated effort is the CDC’s Study to Explore Early Development (SEED) [http://www.cdc.gov/ncbddd/autism/seed.html]

Executive Summary of Literature Review for Behavioral Interventions (ABA) (January 2012)
Applied Behavioral Analysis (ABA), is the scientific study, or analysis, of an individual's behavior. It is based on a study published by O. Ivar Lovaas, Ph.D., et. al. The original work by O. Ivar Lovaas and colleagues in 1987 at UCLA consisted of a prospective comparative study as well as a long-term follow-up study. The study group consisted of 38 children with autism who were non-randomly assigned to IBI therapy (n=19) or minimal treatment (n=19). Outcomes were compared with data from 21 children with similar characteristics who were treated at another facility. Lovaas reported that almost half of the children receiving intensive therapy (47%, 9 of 19 children) passed normal first grade and had an IQ score that was at least average, in contrast to the children in the minimal treatment group or comparison control group. It was reported that the mean IQ scores after therapy were 83 for the IBI group, 52 for the minimal treatment group, and 58 for the comparison control group.

However, most of the over 7000 subsequent studies published in the medical literature to show effectiveness have had only tentative clinical results. Most of the studies consist of non-randomized control trials with small sample sizes that examine different treatments with radically different delivery approaches and intensities delivered over different time spans (12 weeks to 2 years), using different measurement approaches. There is also a lack of long-term comparative studies.

Hayes concluded that there is some evidence that suggests that treatment of young autistic children with intensive behavioral intervention (IBI) therapy, also called Lovaas or applied behavior analysis (ABA) therapy, may promote gains in cognitive function, language skills, and adaptive behavior. However, although almost all studies suggested improvements in children treated with IBI compared with other treatments, most studies had major limitations in design and methodology, including lack of randomization procedures, small sample sizes, and a lack of blinded assessments to determine treatment effects. In addition, although the initial work by Lovaas suggested that some high-functioning autistic children who undergo IBI therapy can achieve normal school performance and behavior, these findings have not been replicated by other investigators.

The American Academy of Pediatrics published “A Systematic Review of Early Intensive Intervention for Autism Spectrum Disorders” in the May 2011 journal of Pediatrics. Based on a data search from 2000 – 2010, they identified 34 studies that met the inclusion criteria (confirmed diagnosis of ASD, greater than 10 patients, less than 13 years of age) that focused on behavioral and developmental approaches. Seventeen studies were case series; 2 were randomized controlled trials. One study was rated as 1 good quality, 10 as fair quality, and 23 as poor quality and the strength of the evidence overall ranged from insufficient to low. Studies of University of California Los Angeles/Lovaas-based interventions and variants reported clinically significant gains in language and cognitive skills in some children, as did 1 randomized controlled trial of an early intensive developmental intervention approach (the Early Start Denver Model). Specific parent-training approaches yielded gains in short-term language function and some challenging behaviors. Data suggest that subgroups of children displayed more prominent gains across studies, but participant characteristics associated with greater gains are not well understood. The authors concluded that studies of Lovaas-based approaches and early intensive behavioral intervention variants and the Early Start Denver Model resulted in some improvements in cognitive performance, language skills, and adaptive behavior skills in some young children with ASDs, although the literature is limited by methodologic concerns.

The American Academy of Child and Adolescent Psychiatry (AACAP) published the guideline Practice Parameters For The Assessment And Treatment Of Children, Adolescents, And Adults With Autism And Other Pervasive Developmental Disorders was updated in 2014. The current guideline states that behavioral interventions can significantly facilitate acquisition of language, social, and other skills and that behavioral improvement and help reduce levels of parental stress. However, they raise questions...
about the various methodological issues, intervention intensity and the validity of the
diagnosis of autism and characteristics of the study participants.

In the March 2011 Agency for Health Care Research and Quality publication "Therapies for
Children With Autism Spectrum Disorders: Comparative Effectiveness Review ", the
authors focused on studies of children between 2- 12 years of age with a diagnosis of ASD
and children under 2 if the child was at risk for ASDs. Seventy eight unique behavioral
studies were identified and categorized on the strength of the evidence as high, moderate,
low and insufficient. These included the UCLA/Lovaas-focused approach and
developmentally focused ESDM approach. Both approaches were associated with greater
improvements in cognitive performance, language skills, and adaptive behavior skills
compared with broadly defined eclectic treatments in subgroups of children, although the
strength of evidence (confidence in the estimate) is low pending replication of the
available studies. The AHRQ identified ‘gaps’ in the evidence and methodological concerns
such as no or inappropriate control groups, characterization of the study groups,
unstandardized outcome measures , lack of long term outcomes and selective reporting.
According to the report, no studies directly compare effects of different treatment
approaches and little evidence of practical effectiveness or feasibility beyond research
studies exists, so questions remain about whether reported findings would be observed on
a larger scale within communities. The authors concluded that some evidence supports
early and intensive behavioral and developmental intervention, including intensive
approaches (provided >30 hours per week) and comprehensive approaches (addressing
numerous areas of functioning)

The National Autism Center conducted a complex multifaceted review of all available
evidence from early childhood through adolescence and reported results in the National
Standards Project (NSP) - a systemic review of the behavioral and educational peer-
reviewed treatment literature involving individuals with confirmed ASD published between
1957 and 2007. The NSP reviewed over 7,000 articles in which 775 peer reviewed studies
addressing a variety of interventions pertaining to the treatment of ASD were identified.
With evidence of benefit from several well-controlled studies, the National Autism Center's
National Standards Report considers intensive behavioral intervention to be an
"established" treatment. The NAC categorizes ABA treatment, behavioral inclusive
programs and early intensive behavioral into the comprehensive behavioral treatment
category because they involve a combination of applied behavior analytic procedures (e.g.,
discrete trial, incidental teaching, etc.). They are delivered to young children (generally
under the age of 8) in a variety of settings (e.g., home, self-contained classroom, inclusive
classroom, community) and involve a low student-to-teacher ratio (e.g., 1:1). All of the
studies falling into this category met the strict criteria of targeting the defining symptoms
of ASD, having formal treatment manuals, providing treatment with a high degree of
intensity, and measuring the overall effectiveness of the program.

In summary, intensive behavior programs may improve core symptoms of ASD but should
not be expected to lead to normal function. The studies revealing the most gains for
intensive behavior programs included a high level of intervention (eg, 30 to 40 hours per
week of intensive one-on-one services for two or more years and starting before the age
of five years). However, the evidence is insufficient to provide a general recommendation
that all children with ASD require this level of intervention. The most significant
improvements generally are seen within the first 12 months of treatment. Pretreatment
variables that are associated with improved outcomes include the presence of joint
attention, functional play skills, higher cognitive abilities, and decreased severity of autism
symptoms.

There is some controversy about the use of ABA for older children, and there are few
studies to guide recommendations for this age group (Myers 2007, Granpeesheh 2009).
The studies tend to be smaller both in duration and in numbers. Children requiring ABA at
an older age may be more impaired than children who no longer require ABA. In such
children, ABA may be used to target specific needs, rather than broad deficits, limiting the generalizability of study results.

**Patient Education Websites - English**

5. Center for Parent Information and Resources [http://parentcenterhub.org](http://parentcenterhub.org)
6. National Institute of Child Health and Human Development (NICHD) [www.nichd.nih.gov](http://www.nichd.nih.gov)
10. Autism Speaks: [www.autismspeaks.org](http://www.autismspeaks.org)
12. Yale Child Study Center: [www.autism.fm](http://www.autism.fm)

**Patient Education Websites – Spanish**

3. Center for Parent Information and Resources. [http://www.parentcenterhub.org/resources/](http://www.parentcenterhub.org/resources/)
### DD-9 codes, DSM-IV-TR/DSM-V Codes and Description related to this policy

<table>
<thead>
<tr>
<th>Code</th>
<th>Code Description</th>
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<tbody>
<tr>
<td>99080</td>
<td>Special reports such as insurance forms, more than the information conveyed in the usual medical communications or standard reporting form</td>
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<tr>
<td>90804</td>
<td>Individual psychotherapy, insight oriented, behavior modifying and/or supportive, in an office or outpatient facility, approximately 20 to 30 minutes face-to-face with the patient; with medical evaluation and management services</td>
</tr>
<tr>
<td>90805</td>
<td>Individual psychotherapy, insight oriented, behavior modifying and/or supportive, in an office or outpatient facility, approximately 45 to 50 minutes face-to-face with the patient; with medical evaluation and management services</td>
</tr>
<tr>
<td>90806</td>
<td>Individual psychotherapy, insight oriented, behavior modifying and/or supportive, in an office or outpatient facility, approximately 45 to 50 minutes face-to-face with the patient; with medical evaluation and management services</td>
</tr>
<tr>
<td>90807</td>
<td>Individual psychotherapy, insight oriented, behavior modifying and/or supportive, in an office or outpatient facility, approximately 75 to 80 minutes face-to-face with the patient; with medical evaluation and management services</td>
</tr>
<tr>
<td>90808</td>
<td>Individual psychotherapy, insight oriented, behavior modifying and/or supportive, in an office or outpatient facility, approximately 75 to 80 minutes face-to-face with the patient; with medical evaluation and management services</td>
</tr>
<tr>
<td>90809</td>
<td>Individual psychotherapy, insight oriented, behavior modifying and/or supportive, in an office or outpatient facility, approximately 75 to 80 minutes face-to-face with the patient; with medical evaluation and management services</td>
</tr>
<tr>
<td>90810</td>
<td>Individual psychotherapy, interactive, using play equipment, physical devices, language interpreter, or other mechanisms of non-verbal communication, in an office or outpatient facility, approximately 20 to 30 minutes face-to-face with the patient;</td>
</tr>
<tr>
<td>90811</td>
<td>Individual psychotherapy, interactive, using play equipment, physical devices, language interpreter, or other mechanisms of non-verbal communication, in an office or outpatient facility, approximately 45 to 50 minutes face-to-face with the patient; with medical evaluation and management services</td>
</tr>
<tr>
<td>90812</td>
<td>Individual psychotherapy, interactive, using play equipment, physical devices, language interpreter, or other mechanisms of non-verbal communication, in an office or outpatient facility, approximately 75 to 80 minutes face-to-face with the patient; with medical evaluation and management services</td>
</tr>
<tr>
<td>90813</td>
<td>Individual psychotherapy, interactive, using play equipment, physical devices, language interpreter, or other mechanisms of non-verbal communication, in an office or outpatient facility, approximately 75 to 80 minutes face-to-face with the patient;</td>
</tr>
<tr>
<td>90814</td>
<td>Individual psychotherapy, interactive, using play equipment, physical devices, language interpreter, or other mechanisms of non-verbal communication, in an office or outpatient facility, approximately 75 to 80 minutes face-to-face with the patient; with medical evaluation and management services</td>
</tr>
<tr>
<td>90815</td>
<td>Individual psychotherapy, interactive, using play equipment, physical devices, language interpreter, or other mechanisms of non-verbal communication, in an office or outpatient facility, approximately 75 to 80 minutes face-to-face with the patient; with medical evaluation and management services</td>
</tr>
<tr>
<td>90847</td>
<td>Family psychotherapy (conjoint psychotherapy) (with patient present)</td>
</tr>
<tr>
<td>90853</td>
<td>Group Psychotherapy (Other than of a multiple-family group)</td>
</tr>
<tr>
<td>90857</td>
<td>Individual psychotherapy</td>
</tr>
<tr>
<td>90862</td>
<td>Pharmacologic management, including prescription, use, and review of medication with no more than minimal medical psychotherapy</td>
</tr>
<tr>
<td>96118</td>
<td>Neuropsychological testing (eg, Halstead-Reitan Neuropsychological Battery, Wechsler Memory Scales and Wisconsin Card Sorting Test), per hour of the psychologist’s or physician’s time, both face-to-face time administering tests to the patient and time interpreting these test results and preparing the report.</td>
</tr>
<tr>
<td>96119</td>
<td>Neuropsychological testing (eg, Halstead-Reitan Neuropsychological Battery, Wechsler Memory Scales and Wisconsin Card Sorting Test), with qualified health care professional interpretation and report, administered by technician, per hour of technician time, face-to-face</td>
</tr>
<tr>
<td>96120</td>
<td>Neuropsychological testing (eg, Wisconsin Card Sorting Test), administered by a computer, with qualified health care professional interpretation and report</td>
</tr>
<tr>
<td>96152</td>
<td>Health and behavior intervention, each 15 minutes, face-to-face; individual</td>
</tr>
<tr>
<td>H0031</td>
<td>Mental health assessment, by nonphysician</td>
</tr>
<tr>
<td>H0032</td>
<td>Mental health service plan development by nonphysician</td>
</tr>
<tr>
<td>H2019</td>
<td>Therapeutic behavioral services, per 15 minutes</td>
</tr>
<tr>
<td>S5108</td>
<td>Health and behavior intervention, each 15 minutes, face-to-face; individual</td>
</tr>
</tbody>
</table>

**Review History**

<table>
<thead>
<tr>
<th>Date</th>
<th>Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 2006</td>
<td>MHN Clinical Practice Committee Approval</td>
</tr>
</tbody>
</table>

Home care training to home care client, per 15 minutes
July 2006  |  HN Medical Advisory Council initial approval
---|---
September 2006  |  Medical Advisory Council review of external specialty expert comment – no change in policy
December 2006  |  Updated – added Hyperbaric oxygen therapy (HBOT) as not medically necessary
March 2007  |  Code update
November 2007  |  Update – no revisions – further rationale and references added
January 2008  |  Update – no revisions
May 2008  |  HN Medical Advisory Committee
October 2008  |  MHN Clinical Practice Committee Review
December 2008  |  Updated by MHN and approved by the Medical Advisory Council; Removed LOVASS et al from investigational list to educational interventions
February 2010  |  Update. No revisions. Codes reviewed.
March 2011  |  MHN, no revisions
November 2011  |  Update, revisions made related to state mandates for ABA coverage, MHN and HN Medical Advisory Board
January 2012  |  Added section on early intensive behavioral intervention to the Scientific Rationale and added specific CPT codes and a link to state mandates
December 2012  |  MHN, No revisions
January 2013  |  Update. No clinical revisions.
December 2013  |  MHN, nomenclature revision only to reflect publication of DSM-V
January 2014  |  update, no clinical revisions
September 2014  |  MHN update, clinical revisions
November 2014  |  HN MAC update, clinical revisions, Codes updated
September 2015  |  MHN update, no clinical revisions
November 2015  |  HN MAC, update, no clinical revisions

This policy is based on the following evidence-based guidelines:


http://www.asha.org/about/publications/leader-online/

References Updated – November 2015

References Updated – November 2014
References Updated – January 2014

   http://www.pnas.org/content/early/2013/11/27/1312857110
   http://www.jaacap.com/article/S0890-8567(13)00786-7/abstract

References Updated – January 2012


References Update – November 2011


References Update – March 2011
3. Lancet retraction http://www.thelancet.com/journals/lancet/article/PIIS0140-6736%2897%2911096-0/abstract

References Update – February 2010

References – Update November 2007

References - Initial

Important Notice

General Purpose.
Health Net's National Medical Policies (the "Policies") are developed to assist Health Net in administering plan benefits and determining whether a particular procedure, drug, service or supply is medically necessary. The Policies are based upon a review of the available clinical information including clinical outcome studies in the peer-reviewed published medical literature, regulatory status of the drug or device, evidence-based guidelines of governmental bodies, and evidence-based guidelines and positions of select national health professional organizations. Coverage determinations are made on a case-by-case basis and are subject to all of the terms, conditions, limitations, and exclusions of the member's contract, including medical necessity requirements. Health Net may use the Policies to determine whether under the facts and circumstances of a particular case, the proposed procedure, drug, service or supply is medically necessary. The conclusion that a procedure, drug, service or supply is medically necessary does not constitute coverage. The member's contract defines which procedure, drug, service or supply is covered, excluded, limited, or subject to dollar caps. The policy provides for clearly written, reasonable and current criteria that have been approved by Health Net's National Medical Advisory Council (MAC). The clinical criteria and medical policies provide guidelines for determining the medical necessity criteria for specific procedures, equipment, and services. In order to be eligible, all services must be medically necessary and otherwise defined in the member's benefits contract as described this "Important Notice" disclaimer. In all cases, final benefit determinations are based on the applicable contract language. To the extent there are any conflicts between medical policy guidelines and applicable contract language, the contract language prevails. Medical policy is not intended to override the policy that defines the member's benefits, nor is it intended to dictate to providers how to practice medicine.

Policy Effective Date and Defined Terms.
The date of posting is not the effective date of the Policy. The Policy is effective as of the date determined by Health Net. All policies are subject to applicable legal and regulatory mandates and requirements for prior notification. If there is a discrepancy between the policy effective date and legal mandates and regulatory requirements, the requirements of law and regulation shall govern. * In some states, prior notice or posting on the website is required before a policy is deemed effective. For information regarding the effective dates of Policies, contact your provider representative. The Policies do not include definitions. All terms are defined by Health Net. For information regarding the definitions of terms used in the Policies, contact your provider representative.

Policy Amendment without Notice.
Health Net reserves the right to amend the Policies without notice to providers or Members. In some states, prior notice or website posting is required before an amendment is deemed effective.

No Medical Advice.
The Policies do not constitute medical advice. Health Net does not provide or recommend treatment to members. Members should consult with their treating physician in connection with diagnosis and treatment decisions.

No Authorization or Guarantee of Coverage.
The Policies do not constitute authorization or guarantee of coverage of particular procedure, drug, service or supply. Members and providers should refer to the Member contract to determine if exclusions, limitations, and dollar caps apply to a particular procedure, drug, service or supply.

Policy Limitation: Member's Contract Controls Coverage Determinations.
The determination of coverage for a particular procedure, drug, service or supply is not based upon the Policies, but rather is subject to the facts of the individual clinical case, terms and conditions of the member's contract, and requirements of applicable laws and regulations. The contract language contains specific terms and conditions, including pre-existing conditions, limitations, exclusions, benefit maximums, eligibility, and other relevant terms and conditions of coverage. In the event the Member's contract (also known as the benefit contract, coverage document, or evidence of coverage) conflicts with the Policies, the Member's contract shall govern. Coverage decisions are the result of the terms and conditions of the Member's benefit contract. The Policies do not replace or amend the Member's contract. If there is a discrepancy between the Policies and the Member's contract, the Member's contract shall govern.

Policy Limitation: Legal and Regulatory Mandates and Requirements.
The determinations of coverage for a particular procedure, drug, service or supply is subject to applicable legal and regulatory mandates and requirements. If there is a discrepancy between the Policies and legal mandates and regulatory requirements, the requirements of law and regulation shall govern.

**Policy Limitations: Medicare and Medicaid.**

Policies specifically developed to assist Health Net in administering Medicare or Medicaid plan benefits and determining coverage for a particular procedure, drug, service or supply for Medicare or Medicaid members shall not be construed to apply to any other Health Net plans and members. The Policies shall not be interpreted to limit the benefits afforded Medicare and Medicaid members by law and regulation.

**State mandates related to ASD are available at:**