# Medical Coverage Policy

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# Intensive Behavioral Interventions

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## Related Coverage Resources

Attention-Deficit/Hyperactivity Disorder (ADHD): Assessment and Treatment
Autism Spectrum Disorders/Pervasive Developmental Disorders: Assessment and Treatment.

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## Overview

This Coverage Policy addresses intensive behavioral interventions (e.g., adaptive behavior treatment, applied behavior analysis) for treatment of autism spectrum disorders.

## Coverage Policy

**Some states mandate coverage of intensive behavioral interventions and/or treatment of autism spectrum disorders (ASD) for benefit plans regulated under state law. For example, New York law requires regulated benefit plans to provide coverage for the screening, diagnosis and treatment of ASD, including applied behavioral analysis.**

**Please refer to the applicable benefit plan document to determine terms, conditions and limitations of coverage.**

### Medically Necessary

#### Criteria for Assessment for Applied Behavior Analysis (ABA)

**An assessment for ABA is considered medically necessary when ALL of the following criteria are met:**

**Diagnosis**

- The individual has a confirmed diagnosis of autism spectrum disorder (ASD); (ICD-10-CM Diagnosis Codes F84.0 – F84.9, with the exception of F84.2, Rett syndrome) based on the criteria in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) by a healthcare professional who is licensed to practice independently and whose licensure board considers diagnostics to be within their scope of practice and BOTH of the following must be provided:
  - name, credentials, and type of licensure of the individual who made the diagnosis
  - date on which the diagnosis was made

**Assessment**

- The assessment will be performed by a Board Certified Behavior Analyst (BCBA), Licensed Behavior Analyst (LBA), or a mental health clinician who is licensed to practice independently and who has documented training in ABA.
- The full and comprehensive ABA assessment will include ALL of the following:
  - Administration of a reliable, valid, and standardized assessment instrument that measures the individual's functioning in the domains included in the diagnostic criteria for ASD in the DSM-5: social communication and social interaction; and restricted, repetitive patterns of behavior, interests, or activities and the instrument includes:
    - must be completed in its entirety and as designed
    - the reliability and validity have been established for use with members of the population tested (e.g., age, language preference, etc.)
    - completed by an individual who has been trained to administer the assessment tool and interpret the results
    - the instrument used represents the most current version, and does not represent obsolete editions of the assessment (e.g., Vineland-3 vs. Vineland-II)
  - The assessment must involve the primary caregivers.

**<u>Criteria for Initiation of Treatment with ABA</u>**

**Diagnosis**

**ABA is considered medically necessary when ALL the following criteria are met:**

- The individual has a confirmed diagnosis of ASD (F84.0–F84.9, with the exception of F84.2, Rett syndrome) based on the criteria in the DSM-5 by a healthcare professional who is licensed to practice independently and whose licensure board considers diagnostics to be within their scope of practice and BOTH of the following must be provided:
  - The name, credentials, and type of licensure of the person who made the diagnosis
  - the date on which the diagnosis was made

**Asessment**

- A full and comprehensive ABA assessment must have been completed that includes all of the criteria from the Assessment for ABA section above regarding the specifications of the assessment tool, and meets ALL of the following criteria:
  - Standardized score tables and scoring grids/figures must be provided, when applicable.

- Administration of the assessment instrument must have been completed within 60 days prior to the start of treatment.
- The results of the reliable and valid, standardized assessment instrument utilized indicates deficits in areas measuring the domains included in the diagnostic criteria for ASD as defined by the DSM-5.

- The assessment must have been performed by a BCBA, LBA, or a mental health clinician who is licensed to practice independently and who has documented training in ABA.
- In the event the reliable and valid, standardized assessment was completed by a professional other than the requesting provider BOTH of the following criteria:
  - There is clear and documented evidence of collaboration and coordination with the administering professional by the requesting provider.
  - There is documentation that the assessment results accurately reflect the client's current functioning and correspond with the requesting provider's direct observation of the client.

- A complete developmental history has been obtained including:

  - relevant co-morbid conditions
  - vision and hearing evaluations
  - current medications

- Consideration of family/caregivers, including language or cultural factors that may impact treatment has been documented.

**Treatment Plan / Plan of Care**

- An individualized treatment plan/plan of care has been developed that includes ALL of the following:
  - Clearly defined and measurable goals designed to target specific behaviors/skills across all settings/environments where treatment will occur (e.g., home, clinic, school, community setting, etc.).
  - Treatment goals have been identified and individualized for intervention based on the results of the assessment instrument(s) and the client's current level of functioning.
  - Treatment goals are directly related to the symptoms of ASD and their effects as defined by the DSM-5.
  - Baseline data have been obtained and provided, with dates recorded, for all behaviors and skills identified for intervention across all settings/environments in which treatment will occur.
  - When service initiation has occurred greater than 60 days prior to the date of the submission of the authorization request, baseline, interim and current data have been obtained and provided, with dates on which data were collected, for all of the behaviors and skills identified for intervention across all settings/environments in which treatment will occur/has occurred.
  - Each goal includes clearly defined mastery criteria indicating the standards for determining when a goal/objective has been/will be met that are consistent with the units of measurement identified within the goal.
  - If group treatment is planned, the treatment plan/plan of care must include clearly defined, measurable goals for the group therapy that are specific to the individual and his/her targeted behaviors/skills that have been identified for intervention based on the results of the assessment instrument(s), and are specific to the individual and their targeted behavior skills.
  - There is a clear plan to ensure maintenance and generalization of acquired skills across all settings.
  - There is a clearly defined, measurable, individualized, and realistic transition plan that includes a plan for fading services across all settings/environments where treatment will occur.

- There are individualized discharge criteria that are clearly defined, measureable, and realistic.

- The planned intensity of treatment reflects the severity of the impairments, goals of treatment, and response to treatment across all settings/environments where treatment will occur.
- There is a clear and documented plan to coordinate care with all other medical and mental health providers, and with government mandated/school services.
- Supervision will be performed by a BCBA, LBA or a mental health professional who is licensed to practice independently and who has documented training in ABA and includes ALL of the following:
    - Direct supervision (BCBA face-to-face with the individual and either the Registered Behavior Technician [RBT] or the Board Certified Assistant Behavior Analyst [BCaBA] delivering the direct treatment) is consistent with the generally accepted practice standard of one to two hours per ten hours of direct treatment.
    - Supervisory services requested/provided coincide with Current Procedural Terminology (CPT) code descriptions as identified by the American Medical Association (AMA).
    - The name and credentials of the individual who will provide supervision must be documented.

- Stakeholder (e.g., parent/caregiver, relative, teacher, and/or other impacted/invested party) training will be conducted by a BCBA, LBA, or a mental health professional who is licensed to practice independently and who has documented training in ABA and includes ALL of the following:
    - There are clearly defined, measurable stakeholder goals designed to teach the basic behavioral principles of ABA and how to continue behavioral interventions in the home and community, as well as across all relevant settings/environments.
    - If group stakeholder training is planned, there are clearly defined, measurable stakeholder training goals for the group training that are individualized to the stakeholder(s) and the individual client's needs.
    - There is a clear plan to collect data to demonstrate the stakeholder(s) are making progress toward meeting identified stakeholder training goals.
    - The name and credentials of the individual who will provide stakeholder training must be documented.

- Services must meet the definition of active treatment regardless of location and includes ALL of the following:

    - Direct service provision consist entirely of active ABA treatment aimed at ameliorating the symptoms of ASD and their effects as defined by diagnostic criteria in DSM-5 across all settings/environments where treatment will occur.
    - The therapist must remain in line of sight, direct engagement, and within close enough proximity to the individual to allow for consistent presentation of learning opportunities that relate to the goals and objectives identified within the plan of care/treatment plan (this does not apply to telehealth services, when applicable).
    - For services that are focused primarily on addressing, preventing or responding to maladaptive behavior(s), the identified behavior(s) must be occurring at a frequency that requires active intervention throughout the time the therapist is with the individual.
    - ABA services are not utilized to replace or replicate activities that are the responsibility of the setting/environment where services occur (e.g., classroom aide, 1:1 teacher, tutor, vocational assistant/coach).

**Other Factors**

- Applied behavior analytic services delivered by multiple providers during the same authorization period are not considered medically necessary unless ALL of the following are present and documented:
    - Providers are addressing substantially different skills.

- There is a clear plan to coordinate care across providers, to ensure the services are not duplicative, and are consistent with clinical needs of the individual based on documentation and data collection.
- Behavioral intervention strategies used across providers are consistent and not contradictory.

- When the goals of treatment include feeding conditions and toileting concerns, BOTH of the following must be met:
  - The treatment plan/plan of care includes specific safety measures and protocols.
  - Consultation with medical and/or dietary/nutritional professionals has occurred prior to the initiation of the intervention, will be continued on an ongoing basis, and is specifically documented.

**Criteria for Continued Treatment with ABA**

**Continued treatment with ABA is considered medically necessary when: (1) the first bullet in the above section for initiation of treatment section was met at the time treatment was initiated; (2) ALL of criteria from initiation of treatment section above are currently met and (3) ALL of the following criteria are met:**

- The treatment plan/plan of care has been updated to address the current identified skill deficits and maladaptive behaviors, as well as progress made across all targeted areas.
- Baseline, interim and current data have been obtained, and provided, with dates on which data were collected, for all behaviors and skills identified for intervention across all settings/environments where treatment has been provided or will occur.
- The data indicate that there has been ongoing and sustained progress toward mastering the treatment goals.
- There is evidence of measurable and ongoing improvement in targeted behaviors/skills as demonstrated with the use of a reliable and valid, standardized assessment instrument completed no more than one year from the start date of the continued treatment request.
- When progress toward mastering treatment and/or stakeholder goals, or evidence of measureable and ongoing improvement is not demonstrated, barriers toward progress have been identified, and there is a specific and documented plan to address barriers and evidence of interventions being adjusted through protocol modification, with continued data monitoring and assessment for effectiveness by the provider.
- Administration of a reliable and valid, standardized assessment instrument is completed following any break in treatment greater than 60 calendar days.
- Updated/current data have been collected for all behaviors and skills identified for intervention across all setting/environments in which treatment will occur following any break in treatment greater than 60 calendar days.
- Baseline, interim and current data related to stakeholder goals have been obtained and provided, with dates on which data were collected, indicating relevant stakeholders continue to actively participate in the treatment and that they are making progress toward mastering the stakeholder goals.

## Experimental, Investigational or Unproven

**ABA is considered experimental, investigational or unproven for all non-ASD indications.**

**Intensive behavioral interventions other than ABA are considered experimental, investigational or unproven.**

## Not Medically Necessary

**Services that are considered primarily educational or vocational in nature, or related to academic or work performance are considered not medically necessary.**

**Provision of ABA treatment is considered not medically necessary when delivered to the same individual, at the same time as any other treatment modality (e.g., ABA and speech therapy, or ABA and occupational therapy).**

# General Background

## Glossary of Terms

| TERM | DEFINITION |
|---|---|
| Active Treatment | Treatment is performed in a manner in which the interventionist is within close enough proximity to the customer to allow for direct engagement in presenting, creating and/or contriving consistent learning opportunities based on structured, planned and intentional intervention strategies or naturally occurring environmental stimuli. Active treatment involves regular engagement of customers and their significant others (Association of Professional Behavior Analysts [APBA], 2017), and may include both systematic and naturalistic techniques across both individual and group settings (Pellecchia, et al., 2015). |
| Assessment | A developmentally appropriate evaluation tool to ascertain areas of relative strength and deficit across relevant domains, and informs the development of an individualized treatment plan/plan of care, including recommendations for areas of focus, goals of treatment, intensity of service, and mode of service delivery (Council of Autism Service Providers [CASP], 2020). |
| Baseline Data | Quantifiable information regarding performance of skill development and behavior reductive targets (as applicable) collected prior to implementation of the independent variable identified as intervention/treatment from which areas of treatment focus and intervention can be identified, the effects of the independent variable can be recognized, and comparative progress can be determined (see Demonstration of Progress). Reporting of baseline data includes dates on which the information was collected (Cooper et al., 2020). |
| Clearly Defined Goals | Specifically indicates the target behaviors and expectations included for measurement within the treatment goal. Identifies the method in which progress will be measured. Operationally defines the behavioral expectation of the customer and degree of independence necessary for mastery of the goal/objective. |
| Comprehensive ABA | ABA treatment of multiple affected developmental domains, which may also include reduction of maladaptive behaviors (CASP, 2020). |
| Continued Treatment with ABA Request | An ABA treatment authorization request when, regardless of funding source, the customer has participated in ABA services with the requesting provider within 90 days from the date the authorization request was made. |
| Criterion Referenced Assessments | A psychometric property of a standardized assessment that relates to some unit of measure based on the test taker's performance on a set of standard criteria. Scores on criterion referenced assessments are developed by demonstration of a particular skill, milestone or measurable outcome, and are not impacted by other test takers' performances (Patten & Newhart, 2018). |
| Current Data | Quantitative information regarding performance generally collected within one month prior to when the treatment plan/plan of care is submitted, which includes dates on which the information was collected. |
| Daily Clinical Note | Requirements for written record of documentation for each CPT code billed that includes the start date and time for each service, the end date and time for each service, location of service, the focus of service, a detailed description of what was conducted by the provider during the time of service demonstrating ABA treatment was performed, and who was present/who participated in the service. Signatures and time stamps of when the note was completed are included. May also be referred to as “Progress Note,” |

| TERM | DEFINITION |
|---|---|
| | "Psychotherapy Note," or “Session Note” (United States, The Health Insurance Portability and Accountability Act, 2004). |
| Data | The identification of some dimension of behavior, as collected through measurement procedures and presented in a quantifiable format (Cooper et al., 2020). |
| Demonstration of Progress | Quantitative information regarding performance as demonstrated through current data in relation to treatment goals/objectives and/or formally administered assessment results, indicating comparable, measurable and meaningful behavior change in relation to quantifiable baseline and/or interim data. Demonstration of progress indicates practical importance when altering of the behavior produces socially significant and socially important change (Baer et al., 1968).<br><br>Tracking of progress of goals and within delivered treatment services should be demonstrated through measurement systems that are individualized to the customer, the treatment environment, and the context within which services are conducted (CASP, 2020). |
| Diagnosis | A diagnosis of autism spectrum disorder (ASD) is confirmed when the diagnosis has been made based on the criteria in the DSM-5. A confirmed diagnosis of ASD may also be termed a “medical diagnosis” of ASD when the diagnosis is made by a healthcare professional who is licensed to practice independently and whose licensure board considers diagnostics to be within their scope of practice.<br><br>By contrast, educational identification or meeting educational eligibility for services related to autism through the Individuals with Disabilities Education Act (IDEA) may not meet criteria as a formal diagnosis of ASD, unless the above mentioned specifications have also been met. Similarly, a diagnosis is not considered confirmed when it has been termed “provisional,” “proposed,” “potential,” “at risk of” or any other term used by the diagnosing clinician to indicate that more information may be necessary prior to confirming the diagnosis. |
| Direct Case Supervision | Occurring concurrently with direct treatment, the BCBA is face-to-face with the customer and the technician (e.g., RBT or the BCaBA) delivering the direct treatment. This can include direct observation of treatment by technician, clinical direction on new and revised treatment protocols, and/or monitoring integrity (CASP, 2020). |
| Discharge Criteria | Clearly defined, measurable, realistic, and individualized criteria indicating the point at which services are appropriate for discontinuation and/or transfer to alternative or less intrusive levels of care. Criteria should identify quantifiable skill development and behavior reductive targets considered necessary and socially significant, specific to the customer, and be related to the current course of treatment identified through the customer's treatment plan/plan of care. Discharge criteria should be identified at initiation of treatment, and reviewed and adjusted as appropriate throughout the course of services (ABA Coding Coalition, 2020; CASP, 2020). |
| Focused ABA | ABA treatment provided directly to the customer for a limited number of behavior targets (CASP, 2020). |
| Generalization | Behavior change that is durable over time, appears in a wide variety of possible environments, can be demonstrated across individuals, or spreads to a wide variety of related behaviors (Baer et al., 1968). |
| Goals/Objectives | Specific, clearly and operationally defined, measurable, realistic and individualized description of the precise skill development and behavior reductive targets that represent the focus of intervention within the treatment plan/plan of care. Treatment goals/objectives are based on the areas of deficit identified through the assessments/evaluations administered, and include data collection procedures that are consistent with mastery criteria and allow for frequent evaluation. Treatment goals/objectives indicate the number of targets required toward meeting mastery criteria |

| TERM | DEFINITION |
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| | (when applicable), and are consistent with the intensity and setting of service provision. New treatment goals/objectives are considered on a consistent basis (CASP, 2020). |
| Initiation of Treatment with ABA Authorization Request | An ABA treatment authorization request when the customer has not participated in ABA services with the requesting provider within 90 days from the date the authorization request was made. |
| Interim Data | Quantitative information regarding performance from the period of time between when the goal was introduced into treatment and one month prior to the time the treatment plan/plan of care was submitted for review. Reporting of interim data includes dates on which information was obtained. At a minimum, interim data should include the data point as collected for the previous review period. |
| Maintenance | The extent to which the customer continues to perform the target behavior after a portion or all of the intervention has been terminated (Cooper et al., 2020). |
| Mastery Criteria | Socially validated performance criteria (Cooper et al., 2020) that includes quantitative and measureable conditions and standards that are clearly defined, based on collected data that identifies when a particular target, goal, objective, skill set or behavior has been achieved/accomplished and no longer requires focused and targeted treatment/intervention. Mastery criteria should be consistent with the units of measurement identified within the goal indicating the standards for determining when a goal/objective has been/will be met, and specifies the number of targets required to meet the goal/objective (when applicable). |
| Measurable Goals | Indicates the method in which data will be collected as a means of demonstrating progress toward mastery of the treatment goal. Includes an operational description of the target behavior using quantifiable terms. Measureable goals incorporate quantitative data collection that coincides with data collection methods used for identifying baseline data, interim data and description of progress through current data. |
| Multiple Procedures | Regardless of the funding source, multiple providers bill for services rendered to the same individual when those services occur at the same time. Also referred to as concurrent billing (American Medical Association [AMA], 2019). |
| Norm Referenced Assessments | A psychometric property of a standardized assessment that is designed to compare and rank test takers in relation to the general population. Norm referenced assessments allow for appraisal of the test taker to a hypothetical average test taker, which is determined by comparing scores against the performance results of a statistically selected group of test takers, typically of the same age or grade level (Patten & Newhart, 2018). |
| Observational Treatment | Treatment is performed in a manner in which the interventionist does not present consistent learning opportunities (related to reduced proximity and/or limited occasion), and engagement with the customer and their significant others is inconsistent, infrequent, irregular and unreliable. |
| Operational Definition | Clearly stated description of the behavior characteristics that is observable, measurable, repeatable and agreeable (Alberto & Troutman, 2013). |
| Qualitative Data | Categorized based on traits and characteristics (e.g., anecdotal accounts, descriptive reports, etc.; Kazdin, 2011). |
| Quantitative Data | Counted or measured and reported using numbers (e.g., rate, frequency, percent of opportunities, cumulative mastered targets, percent of momentary time sampling, etc.; Kazdin, 2011). |
| Reliable Assessments | An assessment instrument that produces consistent results across administrations, and when implemented by different people (Patten & Newhart, 2018). |

| TERM | DEFINITION |
|---|---|
| Stakeholder(s) | An individual, other than the person directly receiving services, who is impacted and invested in the intervention provided (e.g., parent/caregiver, relative, teacher, etc; BACB, 2020). |
| Standardized Assessments | Requires all test takers to answer the same questions or meet the same criteria. Tests are administered and scored in a similar manner across participants to allow for comparison of performance across administrations and with other test takers (Patten & Newhart, 2018). |
| Transition Plan | Written plan with treatment targets that must be achieved for each step of a gradual step down in services (CASP, 2020). |
| Treatment Plan / Plan of Care | Submitted documentation outlining the course and direction of intervention that guides procedures, and determines recommendations for areas of focus, goals of treatment, intensity of service, and mode of service delivery (Luiselli, 2006). Treatment plans / plans of care include information to substantiate that the medical necessity criteria for Applied Behavior Analysis as outlined in Cigna Medical Coverage Policy #0499 Intensive Behavioral Interventions are met. |
| Valid Assessments | An assessment instrument that has been psychometrically tested for reliability (see Reliable Assessments), validity (refers to the test's ability to measure what it is intended to measure), and sensitivity (the probability that the assessment will accurately identify and distinguish test taker's performance in meeting set criteria; Patten & Newhart, 2018). |

Intensive behavioral interventions are comprehensive treatment programs that utilize a combination of interventions with the aim of improving cognitive and intellectual function, social and adaptive skill development and behavior problems. They have been proposed to treat autism spectrum disorders as well as other conditions that involve behavioral difficulties. The programs emphasize early intervention, individualization of treatment and an intensive approach. The programs may also be referred to as early intensive behavior intervention (EIBI), intensive behavior intervention (IBI) or early intensive behavioral treatment (EIBT). At times, the terms EIBI, IBI, EIBT are used interchangeably with applied behavior analysis (ABA), Lovaas therapy or Lovaas University of California Los Angeles (UCLA) Program. The term intensive behavioral interventions is used in this coverage policy, but this aligns with adaptive behavior treatment that is referenced in Current Procedural Terminology (CPT®) codes section.

The programs are intensive and range from 15 to 40 hours per week, delivered over a long period of time. The intensive behavior programs focus on identifying behaviors that interfere with normal developmental processes, understanding the relationship between a behavior and the child's environment and modifying those behaviors in such a way so as to improve the child's functional capacity. Treatment goals focus on improving adaptive behavior, language/communication skills, decreasing problem behaviors, as well as improving cognitive/intellectual status and academic/developmental achievements.

There is a formal credentialing process of professional behavior analysts through the Behavior Analyst Certification Board® (BACB). The BACB credentials and recognizes practitioners at four levels:

- Board Certified Behavior Analyst–Doctoral™
- Board Certified Behavior Analysts® (BCBA)
- Board Certified Assistant Behavior Analysts® (BCaBA)
- Registered Behavior Technician™ (RBT)

Practitioners credentialed at the BCBA-D and BCBA levels are defined by the BACB as Behavior Analysts. The BACB requires that BCaBAs, or Assistant Behavior Analysts, work under the supervision of a BCBA-D or BCBA. RBTs must work under the supervision of a BCBA-D, BCBA, or BCaBA

The BACB provides clinical guidelines regarding the delivery of ABA services as a treatment for ASD.

A Licensed Behavior Analysts (LBA) is a behavior analyst credential that is particular to a specific state to provide ABA.

The essential features of autism spectrum disorder are persistent impairment in reciprocal social communication and social interaction and restricted, repetitive patterns of behavior, interests or activities. These symptoms are present from early childhood and limit or impair everyday functioning. Manifestations of the disorder vary greatly depending on the severity of the autistic condition, developmental level, and chronological age, which leads to the term spectrum. Autism spectrum disorder encompasses disorders previously referred to as early infantile autism, childhood autism, Kanner's autism, high-functioning autism, atypical autism, pervasive developmental disorder not otherwise specified, childhood disintegrative disorder, and Asperger's disorder (American Psychiatric Association, 2013).

There are no medical interventions that are effective in achieving a cure for autism; however, the condition may be managed through a combination of behavioral, pharmacological and educational interventions.

| **Diagnostic criteria for Autism Spectrum Disorder from:<br>Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)** |
|---|
| A. Persistent deficits in social communication and social interaction across multiple contexts, as manifested by the following, currently or by history (examples are illustrative, no exhaustive; see text of DSM-5)<br>1. Deficits in social-emotional reciprocity, ranging, for example, from abnormal social approach and failure of normal back-and-forth conversation; to reduced sharing of interests, emotions, or affect; to failure to initiate or respond to social interactions.<br>2. Deficits in nonverbal communicative behaviors used for social interaction, ranging for example, from poorly integrated verbal and nonverbal communication; to abnormalities in eye contact and body language or deficits in understanding and use of gestures; to a lack of facial expressions and nonverbal communication.<br>3. Deficits in developing, maintaining, and understanding relationships, ranging for example, from difficulties adjusting behavior to suit various social contexts; to difficulties in sharing imaginative play or in making friends; to absence of interest in peers.<br>Specify current severity:<br>**Severity is based on social communication impairments and restricted, repetitive patterns of behavior.** |
| B. Restricted, repetitive patterns of behavior, interests, or activities, as manifested by at least two of the following, currently or by history (examples are illustrative, no exhaustive; see text of DSM-5):<br>1. Stereotyped or repetitive motor movements, use of objects, or speech (e.g., simple motor stereotypies, lining up toys or flipping objects, echolalia, idiosyncratic phrases).<br>2. Insistence on sameness,, inflexible adherence to routines, or ritualized patterns of verbal or nonverbal behavior (e.g., extreme distress at small changes, difficulties with transitions, rigid thinking patterns, greeting rituals, need to take same route or eat same food every day).<br>3. Highly restricted, fixated interests that are abnormal in intensity or focus (e.g., strong attachment to or preoccupation with unusual objects, excessively circumscribed or perseverative interests).<br>4. Hyper- or hyporeactivity to sensory input or unusual interest in sensory aspects of the environment (e.g., apparent indifference to pain/temperature, adverse response to specific sounds or textures, excessive smelling, or touching of objects, visual fascination with lights or movement).<br>Specify current severity:<br>**Severity is based on social communication impairments and restricted, repetitive patterns of behavior.** |
| C. Symptoms must be present in the early developmental period (but may not be fully manifest until social demands exceed limited capacities, or may be masked by learned strategies in later life. |
| D. Symptoms cause clinically significant impairment in social, occupational or other important areas of current functioning. |
| E. These disorders are not better explained by intellectual disability (intellectual developmental disorder) or global developmental delay. Intellectual disability and autism spectrum disorder frequently co-occur; to make comorbid diagnosis of autism spectrum disorder and intellectual disability, social communication should be below that expected for general developmental level. |

The DSM notes that individuals with a well-established DSM-IV diagnosis of autistic disorder, Asperger's disorder, or pervasive developmental disorder not otherwise specific should be given the diagnosis of autism spectrum disorder. Individuals who have marked deficits in social communication, but whose symptoms do not otherwise meet criteria for autism spectrum disorder, should be evaluated for social (pragmatic) communication disorder.

**Literature Review**

The Agency for Healthcare Research and Quality (AHRQ) published a comparative effectiveness review of the effects of available interventions on adolescents and young adults with ASD (ages 13 to 30) (Lounds, et al., 2012). The review focused on the following outcomes: core symptoms of ASD (impairments in social interaction, communication, and repetitive behavior); medical and mental health comorbidities; functional behaviors and independence; the transition to adulthood; and family outcomes. The studies assessed interventions falling into the broad categories of behavioral, educational, adaptive/life skills, vocational, medical, and allied health approaches. The comparators included no treatment, placebo, and comparative interventions or combinations of interventions. Intermediate outcomes included changes in core ASD symptoms and in common medical and mental health comorbidities as well as effects on functional behavior, the transition process, and family outcomes. Long-term outcomes included changes in adaptive/functional independence, academic and occupational attainment or engagement, psychological well-being, and psychosocial adaptation. Harms were also assessed.

Across all categories of interventions, most studies (n=27) were of poor quality, and none was good quality. Five randomized controlled trials (RCT) were fair quality: four that investigated pharmacologic agents and one allied health study that assessed a leisure/recreation program. Although positive results may be reported in individual studies, the poor quality of the studies and the lack of replication of the intervention studies mean that the strength of evidence for the body of evidence around any specific intervention is currently insufficient. Findings for the interventions included:

Behavioral:

- Individual or group-based social skills training: Four poor-quality studies, with two reporting on manualized (i.e., has a published treatment manual) intervention. Some gains in social skills on largely parent-reported measures in short-term studies. Two studies lacked comparison groups; diagnostic approach, participant characteristics, treatment fidelity not clearly reported.
- Computer-based social skills training: Three poor-quality, short-term studies. Some improvements in emotion recognition in treated participants; no differences in measures of generalization. Systematic diagnostic approach not reported within studies; concomitant interventions and treatment fidelity not reported.
- Intensive behavioral treatment: One poor-quality case series with diverse participants. Some gains in adaptive behavior reported. Intervention not clearly described; treatment fidelity and concomitant interventions not reported; assessors not masked.

Adaptive/Life Skills:

- Specific life/transitional skills: Three, poor-quality, short-term studies assessing highly specific skills and unique interventions (e.g., shoe lacing, digital device use, rotating classroom schedule). Some gains seen in individual studies but most lacked comparison groups. Systematic diagnostic approach not reported within studies; participants often not clearly characterized; differences in concomitant interventions and treatment fidelity often not reported.
- Treatment and Education of Autistic and related Communication Handicapped Children (TEACCH)-based model: One poor-quality cohort study; desirability of living situation and use of programming rated more highly for TEACCH than other conditions; group homes rated more desirable than institutions. Nonrandom assignment to groups; systematic diagnostic approach not reported within study; inclusion/exclusion criteria not clearly stated; interventions not fully described; assessors not masked.

In 2014, the AHRQ published a systematic review that updated the behavioral intervention portion of the comprehensive review of therapies for children with ASD that was published in 2011 (Weitlauf, et al., 2014).the review included 65 studies comprising 48 randomized trials and 17 nonrandomized comparative studies (19 good, 39 fair, and 7 poor quality) published since the prior review. The quality of studies improved compared with the earlier review; however, the assessment of the strength of evidence (SOE), confidence in the stability of

effects of interventions in the face of future research, remains low for many intervention/outcome pairs. The authors concluded that a growing evidence base suggests that behavioral interventions can be associated with positive outcomes for children with ASD; however, despite improvements in the quality of the included literature, a need remains for studies of interventions across settings and continued improvements in methodologic rigor. Substantial scientific advances are needed to enhance understanding of which interventions are most effective for specific children with ASD and to isolate elements or components of interventions most associated with effects.

There have been several systematic reviews of intensive behavioral interventions for individuals with ASD (Reichow, et al., 2018; Roth,et al., 2014; Bishop-Fitzpatrick, et al, 2013; Strauss, et al., 2013; Reichow, et al., 2012; Warren, et al., 2011b; Peters-Scheffer, et al., 2011; Virués-Ortega, 2010; Makrygianni, et al., 2010; Spreckley, et al., 2009; Seida, et al., 2009; Eldevik, et al., 2009; Howlin, et al., 2009; Reichow and Wolery, 2008). While the reviews do note that are some limitations in the literature that includes small sample size, length of follow-up, and reliance on data from non-randomized studies, that overall the reviews report positive benefits of the treatment.

There are several published studies regarding children with ASD (Mohammadzaheri, et al., 2014; Fernell, et al., 2011; Zachor, et al., 2011; Smith, et al., 2010; Remington, et al., 2007; Ben-Itzchak and Zachor, 2007; Magiati, et al., 2007; Eikeseth, et al., 2007; Sallows and Graupner, 2005; Howard, et al., 2005; Sheinkopf and Siegel, 1998). Although many of the studies are limited by the small sample size and the length of time of treatment and follow-up time there is a demonstrated improvement in outcomes for improvements in functional and social adaptation, and cognitive skills including language and communication skills, intellectual function, or other measures for children with ASD.

**Other Intensive Intervention Programs**
Intensive intervention programs other than those that focus on behavior analytic treatment have also been developed. The published evidence is preliminary and does not support the efficacy of these programs. These include, but are not limited to:

- TEACCH program: The TEACCH program (Treatment and Education of Autistic and Related Communication Handicapped Children) is an educational intervention focused on improving motor coordination and cognitive skills and has been implemented in many special education programs for autistic children. It includes behavioral analytic approaches for some skills but uses other interventions as well.
- Denver Model: The focus of the Colorado Health Sciences program (Denver Model) is learning through play based on Piaget and object relations theories. Behavior analytic techniques are included for behavior management.
- Rutgers program: The Rutgers program is known as the Douglas Developmental Disabilities Center (based at Rutgers University), has three programs small-group segregated preschool, and integrated preschool and intensive home-based intervention, and uses ABA techniques and similarities to the Lovaas program. Families are trained in the program and provide the treatment when they are available and or hire staff trained in the program.
- Learning Experiences and Alternative Program (LEAP): LEAP program includes both a preschool program and a behavioral skill training program for parents, as well as national outreach activities. The program includes an individualized curriculum that targets goals in social, emotional, language, adaptive behavior, cognitive, and physical developmental areas.
- Relationship Development Intervention (RDI): RDI is a program designed to empower and guide parents of children, adolescents and young adults with ASD and similar developmental disorders to function as facilitators for their children's mental development (Gutstein, 2009). RDI is based on instructing the parents to have an important role in improving critical emotional, social and meta-cognitive abilities through carefully graduated, guided interaction in daily activities.
- Floortime: this is also referred to as DIR® (Developmental, Individual Difference, Relationship-based model), DIR® Floortime, or Greenspan Floor-Time Model. This is a developmentally-based, one-on-one treatment program delivered 10 to 25 hours per week. The primary intervention method used in this model is intensive interactive "floor-time" play sessions, in which an adult follows a child's lead in play and interaction. The program consists of three components: home-based play sessions, individual therapies, and early education programs.

**Intensive Behavioral Interventions for Other Conditions**
Although intensive behavioral interventions were developed initially to treat children with autism spectrum disorders (ASD) they have been proposed to treat children with other conditions, including Down syndrome, learning disabilities and Attention-Deficit/Hyperactivity Disorder (ADHD. There is a lack of scientific evidence to support the efficacy of the programs for other conditions.

ABA has been proposed to treat individuals with Down syndrome. The behavior and psychiatric problems associated with Down syndrome Assessment should include evaluation of the problem at school and at home, behavior management techniques, and medication as needed (Ostermaier [UpToDate], 2020). The role of ABA in treatment of this condition is unproven and not supported in the published medical literature.

**Professional Societies/Organizations**
**American Academy of Child and Adolescent Psychiatry (AACAP):** The AACAP updated their practice parameters for the assessment and treatment of children and adolescents with autism spectrum disorders. The guidelines include the following regarding treatment (Volkmar, et al., 2014):

The clinician should help the family obtain appropriate, evidence-based and structured educational and behavioral interventions for children with ASD (evidence base: CS).

The guidelines note that, “Structured educational and behavioral interventions have been shown to be effective for many children with ASD and are associated with better outcome. As summarized in the National Research Council (NRC) report, the quality of the research literature in this area is variable, with most studies employing group controls or single-subject experimental methods. In general, studies employing more rigorous randomized group comparisons are sparse, reflecting difficulties in random assignment and control comparisons. Other problems include lack of attention to subject characterization, generalization of treatment effects, and fidelity of treatment implementation. Despite these problems, various comprehensive treatments approaches have been shown to have efficacy for groups of children, although none of the comprehensive treatment models has clearly emerged as superior.”

Regarding behavioral interventions, the guidelines note that, “Behavioral interventions such as Applied Behavioral Analysis (ABA) are informed by basic and empirically supported learning principles. A widely disseminated comprehensive ABA program is Early Intensive Behavioral Intervention (EIBI) for young children, based on the work of Lovaas et al. EIBI is intensive and highly individualized with up to 40 hours per week of one to one direct teaching, initially using discrete trials to teach simple skills and progressing to more complex skills such as initiating verbal behavior. A meta-analysis found EIBI effective for young children, but stressed the need for more rigorous research to extend the findings. Behavioral techniques are particularly useful when maladaptive behaviors interfere with provision of a comprehensive intervention program. In such situations a functional analysis of the target behavior is performed, in which patterns of reinforcement are identified and then various behavioral techniques are used to promote a desired behavioral alternative. ABA techniques have been repeatedly shown to have efficacy for specific problem behaviors, and ABA has also been found to be effective as applied to academic tasks, adaptive living skills, communication, social skills, and vocational skills. Because most children with ASD tend to learn tasks in isolation, an explicit focus on generalization is important.”

> *evidence base for practice parameters:
> Recommendations for best assessment and treatment practices are stated in accordance with the strength of the underlying empirical and/or clinical support, as follows:
> Clinical Standard (CS) is applied to recommendations that are based on rigorous empirical evidence (e.g., meta-analyses, systematic reviews, individual randomized controlled trials) and/or overwhelming clinical consensus.

**Use Outside of the US**
**National Institute for Health and Clinical Excellence (NICE):** NICE published clinical guidelines for the management and support of children and young people on the autism spectrum. The guidelines include the following recommendations for specific interventions for core features of autism (NICE, 2013; 2021):

Psychosocial interventions

- Consider a specific social-communication intervention for the core features of autism in children and young people that includes play-based strategies with parents, carers and teachers to increase joint attention, engagement and reciprocal communication in the child or young person. Strategies should:
  - be adjusted to the child or young person's developmental level
  - aim to increase the parents', carers', teachers' or peers' understanding of, and sensitivity and responsiveness to, the child or young person's patterns of communication and interaction
  - include techniques of therapist modeling and video-interaction feedback
  - include techniques to expand the child or young person's communication, interactive play and social routines
- The intervention should be delivered by a trained professional. For pre-school children consider parent, carer or teacher mediation. For school-aged children consider peer mediation.

## Medicare Coverage Determinations

| | Contractor | Policy Name/Number | Revision Effective Date |
|---|---|---|---|
| NCD | | No National Coverage Determination found | |
| LCD | | No Local Coverage Determination found | |

Note: Please review the current Medicare Policy for the most up-to-date information.

## Coding/Billing Information

**Note:** 1) This list of codes may not be all-inclusive.
2) Deleted codes and codes which are not effective at the time the service is rendered may not be eligible for reimbursement.

**Considered Medically Necessary when criteria in the applicable policy statements listed above are met:**

| CPT Codes | Description |
|---|---|
| 97151 | Behavior identification assessment, administered by a physician or other qualified health care professional, each 15 minutes of the physician's or other qualified health care professional's time face-to-face with patient and/or guardian(s)/caregiver(s) administering assessments and discussing findings and recommendations, and non-face-to-face analyzing past data, scoring/interpreting the assessment, and preparing the report/treatment plan |
| 97152 | Behavior identification-supporting assessment, administered by one technician under the direction of a physician or other qualified health care professional, face-to-face with the patient, each 15 minutes |
| 97153 | Adaptive behavior treatment by protocol, administered by technician under the direction of a physician or other qualified health care professional, face-to-face with one patient, each 15 minutes |
| 97154 | Group adaptive behavior treatment by protocol, administered by technician under the direction of a physician or other qualified health care professional, face-to-face with two or more patients, each 15 minutes |
| 97155 | Adaptive behavior treatment with protocol modification, administered by physician or other qualified health care professional, which may include simultaneous direction of technician, face-to-face with one patient, each 15 minutes |
| 97156 | Family adaptive behavior treatment guidance, administered by physician or other qualified health care professional (with or without the patient present), face-to-face with guardian(s)/caregiver(s), each 15 minutes |

| CPT Codes | Description |
|---|---|
| 97157 | Multiple-family group adaptive behavior treatment guidance, administered by physician or other qualified health care professional (without the patient present), face-to-face with multiple sets of guardian(s)/caregivers, each 15 minutes |
| 97158 | Group adaptive behavior treatment with protocol modification, administered by physician or other qualified health care professional, face-to-face with multiple patients, each 15 minutes |
| 0362T | Behavior identification supporting assessment, each 15 minutes of technicians' time face-to-face with a patient requiring the following components: administration by the physician or other qualified health care professional who is on site; with the assistance of two or more technicians; for a patient who exhibits destructive behavior; completion in an environment that is customized to the patient's behavior |
| 0373T | Adaptive behavior treatment with protocol modification, each 15 minutes of technicians' time face-to-face with a patient, requiring the following components: administration by the physician or other qualified health care professional who is on site; with the assistance of two or more technicians; for a patient who exhibits destructive behavior; completion in an environment that is customized to the patient's behavior |



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