Medical Policy

Blue Cross Blue Shield Blue Care Network of Michigan

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***Current Policy Effective Date: 3/1/26**
(See policy history boxes for previous effective dates)

Title: Sensory Integration and Auditory Integration Therapy

Description

Sensory integration therapy has been proposed as a treatment of developmental disorders in individuals with established dysfunction of sensory processing, particularly autism spectrum disorder. Sensory integration therapy may be offered by occupational and physical therapists who are certified in sensory integration therapy.

Auditory integration therapy uses gradual exposure to certain types of sounds to improve communication in a variety of developmental disorders, particularly autism spectrum disorder (ASD).

Medical Policy Statement

Ayres Sensory Integration Therapy® is established for treatment of individuals with autism spectrum disorder when criteria are met.

Auditory integration therapy is experimental/investigational. There is insufficient evidence to determine that the technology results in an improvement in net health outcomes.

Inclusionary and Exclusionary Guidelines

Ayres Sensory Integration Therapy® for children 12 years and younger with autism spectrum disorder (ASD) who have a **functional** limitation* when **ALL** of the following have been met:

- The individual has been identified by PT/OT evaluation to have sensory processing issues resulting in difficulty with their adaptive responses to the environment.
- Therapy occurs when the judgment, knowledge, and skills of a qualified provider of therapy services (as defined by the scope of practice for therapists in each state) are necessary to safely and effectively furnish a recognized therapy service due to the complexity and sophistication of the plan of care and the medical condition of the individual, with the goal of improvement of an impairment or functional limitation
- The individual's condition has the potential to improve or is improving in response to therapy, maximum improvement is yet to be attained; and there is an expectation that the anticipated improvement is attainable in a reasonable and generally predictable period of time.
- The program is individualized, and there is documentation outlining quantifiable, attainable treatment goals.
    - Progress toward short- and long-term goals is documented to support continuation of treatment and goals are not yet met.
    - Improvement is evidenced by successive objective measurements.
    - Generalization and carryover of targeted skills into natural environment is occurring.
- Individuals are actively participating in treatment sessions.
- Sessions occur at a frequency of no more than 2-3 per week, 45- 60 minutes in duration and for up to 12 weeks.
- The services are delivered by a qualified provider of therapy services (i.e., appropriately trained and licensed by the state to perform therapy services) and are delivered 1:1.

*An inability to complete an age-related task.

Exclusions:

- Ayres Sensory Integration Therapy when the above criteria are not met (i.e., to treat behavioral concerns** or attention-deficit/hyperactivity disorder (ADHD), cerebral palsy (CP) and other neurodevelopmental disorders).
- All other forms of sensory integration therapy.
- Auditory integration therapy for all indications.

**Noncompliance or irritability

CPT/HCPCS Level II Codes *(Note: The inclusion of a code in this list is not a guarantee of coverage. Please refer to the medical policy statement to determine the status of a given procedure)*

Established codes:

97533

Other codes (investigational, not medically necessary, etc.):

N/A

Background

The goal of sensory integration therapy is to improve how the brain processes and adapts to sensory information, as opposed to teaching specific skills. Therapy usually involves activities that provide vestibular, proprioceptive, and tactile stimuli, which are selected to match specific sensory processing deficits of the child. For example, swings are commonly used to incorporate vestibular input, while trapeze bars and large foam pillows or mats may be used to stimulate somatosensory pathways of proprioception and deep touch. Tactile reception may be addressed through a variety of activities and surface textures involving light touch.

Ayres Sensory Integration (ASI) is an occupational therapy approach developed by Dr. A. Jean Ayres to help individuals, particularly children, process sensory information more effectively. It is based on the understanding that the brain must organize sensations from touch, movement (vestibular and proprioceptive), and other senses to enable adaptive responses and purposeful actions.

Auditory integration therapy (also known as auditory integration training, auditory enhancement training, and audio-psycho-phonology, AIT) is another method that relies on gradual exposure to sound to which individuals are sensitive, based on having individuals listen to music that has been modified to remove frequencies to which the individual is hypersensitive. Although several methods have been developed, the most widely described is the Berardi method, which involves 2 half-hour sessions per day separated by at least 3 hours, over 10 consecutive days, during which patients listen to recordings. Auditory integration training has been proposed for individuals with a range of developmental and behavioral disorders, including learning disabilities, autism spectrum disorders, pervasive developmental disorders, attention deficit and hyperactivity disorder. Other methods include the Tomatis method, which involves listening to electronically modified music and speech, and Samonas Sound Therapy, which involves listening to filtered music, voices, and nature sounds.[1]

SUMMARY OF EVIDENCE

For individuals who have ASD who receive SIT, the evidence includes randomized controlled trials, systematic reviews of these trials, and case series. Relevant outcomes are functional outcomes and quality of life due to the individualized approach to SIT and the large variation in individual therapists and patients, large multicenter RCTs are needed to evaluate the efficacy of this intervention. The most direct evidence related to SIT outcomes is derived from several small, randomized trials. Although some of the studies demonstrated improvements on subsets of outcomes measured, these studies have small sample sizes, heterogeneous patient populations, and variable outcome measures. However, the research done by Ayres in 1972 is the foundation upon which SIT was implemented early on. Contemporary reviews focused on therapy that maintained the theoretical framework of Ayres confirm the utility and efficacy of SIT in children with Autism. Additional information was assessed from clinicians currently practicing who hold academic positions at regional institutions. Literature reporting on six RCTs comparing ASI to usual care or no treatment in pediatric individuals with Autism, was reviewed. ASI group scored statistically significantly higher that the control groups on goal attainment. Confirming that SIT continues to be beneficial in the management of autism today.

The evidence is sufficient to determine that the technology results in an improvement in net health outcomes.

For individuals who have developmental disorders who receive AIT, the evidence includes several randomized controlled trials and systematic reviews of these trials. Relevant outcomes are functional outcomes and quality of life. For AIT, the largest body of literature relates to its use in autism. Several systematic reviews of AIT in the treatment of autism found limited evidence to support its use. No comparative studies were identified that evaluate the use of AIT for other conditions. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

Rationale

Evidence reviews assess clinical evidence to determine whether the use of a technology improves the net health outcome. Broadly defined, health outcomes are length of life, quality of life, and ability to function including benefits and harms. Every clinical condition has specific outcomes that are important to individuals and to managing the course of that condition. Validated outcome measures are necessary to ascertain whether a condition improves or worsens; and whether the magnitude of that change is clinically significant. The net health outcome is a balance of benefits and harms. The following is a summary of the key literature to date.

SENSORY INTEGRATION THERAPY

Clinical Context and Therapy Purpose

The purpose of SIT in individuals who have ASD is to provide a treatment option that is an alternative to or an improvement on existing therapies.

Systematic Reviews

Several systematic reviews have addressed the use of SIT in various clinical conditions (Tables 1 and 2). Four of the systematic reviews included in this evidence review pertain to studies evaluating SIT for autism,[5-7] while the other two include a broader range of developmental disabilities.[8]

Table 1. Comparison of Studies included in Systematic Reviews of SIT

Study	Weitlauf et al (2017)	Case-Smith et al (2015)	May-Benson et al (2010)
Carte et al (1984)			●
Fazlioğlu et al (2008)	●	●	
Grimwood et al (1980)			●
Humphries et al (1990)			●
Humphries et al (1992)			●

Humphries et al (1993)			●
Iwanaga et al (2014)	●		
Miller et al (2007)			●
Morrison et al (1986)			●
Schaaf et al (2013)	●	●	
Pfeiffer et al (2011)	●	●	
Piravej et al (2009)			
Polatajko et al (1991)			●
Reilly et al (1983)			
Werry et al (1990)			●
White (1979)			●
Wilson et al (1992)			●
Wilson et al (1994)			●
Woo et al (2013)			
Ziviani et al (1982)			●
Allen et al (1995)			●
Ayres (1972)			●
Ayres (1977)			●
Bagatell et al (2010)		●	
Bullock et al (1978)			●
Bundy et al (2007)			●
Candler et al (2003)			●
Case-Smith et al (1999)			●
Cox et al (2009)		●	
Davis et al (2011)		●	
Devlin et al (2009)		●	
Devlin et al (2011)		●	
Fertel-Daly (2001)		●	
Hodgetts et al (2010)		●	
Hodgetts et al (2011)		●	
Kane et al (2004)		●	

Kinnealey et al (2012)			
Leemrijse et al (2000)			●
Leew et al (2010)		●	
Linderman et al (1999)			●
Miller et al (2007)			●
Ottenbacher et al (1979)			●
Ottenbacher et al (1982)			●
Quigley et al (2011)			
Reichow et al (2010)		●	
Roberts et al (2007)			●
Schaaf et al (2012)		●	
Schilling et al (2004)		●	
Schroeder et al (1982)			●
Smith et al (2005)		●	
Thompson et al (2011)			
Umeda et al (2011)			
Van Rie et al (2009)		●	
Watling et al (2007)			
Watling et al (2010)		●	
Wuang et al (2010)			

RCTs: randomized controlled trials.

Table 2. Characteristics of Systematic Reviews of Sensory Integration Therapy

Study	Search Dates	Studies	Populations
Weitlauf et al (2017)	2010-2016	3 RCTs, 1 other design	ASD
Case-Smith et al (2015)	2000-2012	2 RCTs, 3 other design	ASD
May-Benson et al (2010)	1972-2007	13 RCTs, 14 other designs	Children with difficulty processing and integrating sensory information

ASD: autism spectrum disorder; RCT: randomized controlled trial.

In a systematic review conducted for the Agency for Healthcare Research and Quality (AHRQ), Weitlauf et al (2017) evaluated the effectiveness and safety of a variety of

interventions targeting sensory challenges in ASD.[5] The reviewers included 3 RCTs and 1 retrospective cohort study of sensory-integration-based approaches, defined as interventions using combinations of sensory and kinetic components, such as materials with different textures, touch/massage, swinging and trampoline exercises, and balance and muscle resistance exercises. One study was rated low risk of bias, 1 moderate, and 2 high risk of bias. Significant heterogeneity across studies in interventions and outcome measures precluded meta-analysis. In 3 of 4 studies, sensory-related measures and motor skills measures improved for children receiving the sensory-integration based intervention, however the strength of this evidence was rated low due to small sample sizes and short study durations. The studies were also limited by a lack of blinding when parent-reported outcome measures were used. The reviewers concluded, "Although some therapies may hold promise and warrant additional study, substantial needs exist for continuing improvements in methodologic rigor in the field."

Kashefimehr et al (2018) examined the effect of sensory integration therapy (SIT) on different aspects of occupational performance in children with autism spectrum disorder (ASD).[20] The study was conducted on an intervention group (n = 16) receiving SIT and a control group (n = 15) with 3- to 8-year-old children with ASD. The Short Child Occupational Profile (SCOPE) was used to compare the two groups in terms of the changes in their occupational performance, and the Sensory Profile (SP) was used to assess sensory problems. The intervention group showed significantly greater improvement in all the SCOPE domains, as well as in all the SP domains, except for the "emotional reactions" and "emotional/social responses" domains, ($p < .05$). The effectiveness of SIT in improving occupational performance in children with ASD as a health-related factor is supported by the authors findings.

Lane (2020) provided a review of evidence regarding measurement and interventions for sensory symptoms.[21] The terminology used to describe sensory symptoms varies by discipline, and several conceptual taxonomies including sensory subtypes have been proposed. There is ample evidence to support the association of sensory symptoms with childhood function including social engagement, repetitive behaviors, anxiety, and participation in self-care routines. Measurement of sensory symptoms is dominated by proxy-report instruments, and few single instruments assess the entire domain of sensory symptomatology. The evidence for interventions for sensory symptoms is emerging but still limited by low quantity and methodological concerns. The author concludes Effective management of sensory symptoms may mitigate the burden of neurodevelopmental disability and mental illness in young people. Identification of sensory symptoms should be conducted by a skilled practitioner utilizing multiple measurement methods. Intervention protocols for sensory symptoms should be informed by current best evidence which is strongest for Ayres Sensory Integration® , Qigong massage, the Alert Program® , and Social Stories.

Camino-Alarcón et al (2024) conducted a systematic review of sensory processing and sensory integration approaches for children with ASD.[7] Sensory integration interventions for infants with ASD had the most evidence-based practices. However, the studies primarily focused on clinical settings, emphasizing the need for additional research to assess the effectiveness of these interventions in natural environments, such as homes and schools.

Randomized Controlled Trial

The Sensory Integration Therapy for sensory processing difficulties in children with Autism spectrum disorder (SenITA) RCT was published more recently and not included in the

systematic reviews discussed above (Table 3). The trial was funded by the National Institute for Health and Care Research (UK) and reported by Randell et al (2022).[9] A total of 138 children ages 4 to 11 years with an autism diagnosis or sensory processing difficulties were randomized to Ayres Sensory Integration® therapy delivered in 26 1-hour sessions over 26 weeks (intensive phase), followed by 2 sessions per month for 2 months and then 1 telephone session per month for 2 months (tailoring phase). The comparator was usual care, which was defined as awaiting services or receiving sensory-based intervention not meeting fidelity criteria for sensory integration. Outcomes were measured at 6- and 12-months post randomization. The primary outcome was irritability/agitation (as measured by the corresponding Aberrant Behavior Checklist subscale), indicative of challenging behavior, at 6 months. Secondary outcomes included other problem behaviors, adaptive behaviors and functioning, socialization, caregiver stress, and quality of life. Outcome assessors were blinded to treatment allocation. Study limitations are shown in Tables 4 and 5.

Sensory integration therapy did not demonstrate clinical benefit above standard care (adjusted mean difference between groups on the primary outcome 0.40 [95% CI –2.33 to 3.14; *P* =.77]). No main intervention effects were observed, and sensitivity analyses did not alter the interpretation of results. Subgroup analyses suggest that sensory integration therapy may work better for boys and those with a comorbid diagnosis of ADHD. However, these subgroup analyses were exploratory and not powered to detect effects.

Table 3. Randomized Controlled Trial of Sensory Integration Therapy in Children with Autism and Sensory Processing Difficulties- Characteristics

Study	Location	Inclusion/Exclusion Criteria	Intervention	Comparator	Main Results
Randell et al (2022)	England and Wales	Children ages 4 to 11 years with a diagnosis of autism or probable or likely autism (defines as undergoing assessment); in mainstream primary education; definite or probable SPDs Exclusions: currently undergoing or had previously undergone SIT or applied behavior analysis therapy Recruitment via services and self-referral	N = 69 Ayres Sensory Integration therapy delivered in 26 1-hour sessions over 26 weeks 2 sessions per week for 10 weeks (intensive phase), followed by 2 sessions per month for 2 months and then 1 telephone session per month for 2 months (tailoring phase)	N = 69 Usual care, defined as awaiting services or receiving sensory-based intervention not meeting fidelity criteria for sensory integration	Primary Outcome (irritability/agitation at 6 months on Aberrant Behavior Checklist): Mean score: Usual care 18.8 (SD 10.48) Intervention 18.5 (SD 9.33) Adjusted mean difference between groups 0.40 (95% CI –2.33 to 3.14; *P* =.77) Conclusions from primary analyses unaffected by sensitivity analyses accounting for missing data, intervention receipt (i.e., dose) or the COVID-19 pandemic. No evidence of meaningful intervention effects was found at 6 or 12 months across behavioral, adaptive functioning, socialization, caregiver stress, health utility or quality-of-life measures.
Omairi et al (2022)	Brazil	Children with ASD ages 5-8 years old.	N=9	N=8	Primary outcomes include pre and post assessment of

		Exclusions: if children were born prematurely, received medication for chronic seizures or had a neurological or genetic disorder such as cerebral palsy or Down syndrome	Ayres Sensory Integration therapy 3 times per week for 10 weeks	Provided usual or customary educational and therapeutic services	self-care and socialization using the Pediatric Evaluation of Disability Inventory and individualized goal ratings. intervention group scored significantly higher on outcome measures of self-care (p = .046, r_b = .57), social function (p = .036, r_b = .61), and parent-identified goal attainment (p < .001, r_b = .94) compared with the control group.

CI: confidence interval; SD: standard deviation; SPD: sensory processing difficulties.

Table 4. Study Relevance Limitations

Study	Population[a]	Intervention[b]	Comparator[c]	Outcomes[d]	Duration of Follow-up[e]
Randell et al (2022)	4. The population was representative of children within autism services, although girls and minority ethnic boys were likely to be under-represented in both the current study and the wider population of children diagnosed with autism	5. Delivery of the intervention varied across regions			

The study limitations stated in this table are those notable in the current review; this is not a comprehensive gaps assessment.
[a] Population key: 1. Intended use population unclear; 2. Study population is unclear; 3. Study population not representative of intended use; 4, Enrolled populations do not reflect relevant diversity; 5. Other.
[b] Intervention key: 1. Not clearly defined; 2. Version used unclear; 3. Delivery not similar intensity as comparator; 4. Not the intervention of interest (e.g., proposed as an adjunct but not tested as such); 5: Other.
[c] Comparator key: 1. Not clearly defined; 2. Not standard or optimal; 3. Delivery not similar intensity as intervention; 4. Not delivered effectively; 5. Other.
[d] Outcomes key: 1. Key health outcomes not addressed; 2. Physiologic measures, not validated surrogates; 3. Incomplete reporting of harms; 4. Not establish and validated measurements; 5. Clinically significant difference not prespecified; 6. Clinically significant difference not supported; 7. Other.
[e] Follow-Up key: 1. Not sufficient duration for benefit; 2. Not sufficient duration for harms; 3. Other.

Table 5. Study Design and Conduct Limitations

Study	Allocation[a]	Blinding[b]	Selective Reporting[c]	Data Completeness[d]	Power[e]	Statistical[f]

Randell et al (2022)				7. caregiver-reported goal performance not measured in control arm		

The study limitations stated in this table are those notable in the current review; this is not a comprehensive gaps assessment.
[a] Allocation key: 1. Participants not randomly allocated; 2. Allocation not concealed; 3. Allocation concealment unclear; 4. Inadequate control for selection bias; 5. Other.
[b] Blinding key: 1. Participants or study staff not blinded; 2. Outcome assessors not blinded; 3. Outcome assessed by treating physician; 4. Other.
[c] Selective Reporting key: 1. Not registered; 2. Evidence of selective reporting; 3. Evidence of selective publication; 4. Other.
[d] Data Completeness key: 1. High loss to follow-up or missing data; 2. Inadequate handling of missing data; 3. High number of crossovers; 4. Inadequate handling of crossovers; 5. Inappropriate exclusions; 6. Not intent to treat analysis (per protocol for noninferiority trials); 7. Other.
[e] Power key: 1. Power calculations not reported; 2. Power not calculated for primary outcome; 3. Power not based on clinically important difference; 4. Other.
[f] Statistical key: 1. Analysis is not appropriate for outcome type: (a) continuous; (b) binary; (c) time to event; 2. Analysis is not appropriate for multiple observations per patient; 3. Confidence intervals and/or p values not reported; 4. Comparative treatment effects not calculated; 5. Other.

In a prospective randomized controlled trial, Omairi et al (2022) evaluated the outcomes of occupational therapy using Ayres Sensory Integration in a sample of children with ASD.[23] Seventeen children with ASD ages 5-8 years old (n=9 in the intervention group, n=8 in the usual care control group) recruited from a local hospital. Pretreatment characterization and baseline measurements were completed. The intervention group received occupational therapy using Ayres Sensory Integration, and the control group received usual therapeutic and educational services only. A pre-post assessment of self-care and socialization using the Pediatric Evaluation of Disability Inventory and individualized goal ratings were conducted. Participants in the intervention group scored significantly higher on outcome measures of self-care (p=.046, rb=.57), social function (p=.036, rb=.61), and parent identified goal attainment (p<.001, rb=.94) compared with the control group. The authors concluded that occupational therapy using Ayres Sensory Integration was effective in enhancing self-care, socialization, and goal attainment for children with ASD.

A systematic review was done in 2025 that included nine RCT's (N =344 participants), six with autistic children and 3 with other populations. These were high level studies of ASI that adhered to ASI Fidelity measures (used protocols according to the Ayres theoretical framework) providing valuable insights into the outcomes of ASI for children unlike previous studies that included more heterogenous therapy services and resulted in mixed conclusions. There was strong evidence from five RCTS's (four level 1b) indicating that ASI supports autistic children in meeting their individualized goals related to occupational performance, function and participation. Moderate evidence from three RCTS (two level 1b) indicated no benefits of ASI for behaviors of concerns such as noncompliance or irritability.[24]

Section Summary: Sensory Integration Therapy
The most direct evidence related to outcomes from sensory integration therapy comes from randomized trials and systematic reviews of these trials. Although certain studies demonstrated some improvements on subsets of the outcomes measured, the studies were limited by small sample sizes, heterogeneous patient populations, and variable outcome measures. A RCT of 138 children ages 4 to 11 years published in 2022 found that sensory integration therapy for children with autism and sensory processing difficulties did not demonstrate clinical benefit above standard care. As a result, the evidence is not sufficiently robust to draw conclusions about the effects of, and the most appropriate patient populations for, sensory integration therapy. Although over the years clinical practice has evolved beyond the evidence and ASI is a widely accepted practice. Now contemporary reviews on SIT confirm

results from previous more heterogenous studies that ASI in particular is a valuable technique when integrated into a treatment plan to improve functional tasks. Overall, strong evidence from the 2025 systematic review indicates that ASI supports achievement and is therefore recommended to address individualized goals related to occupational performance, function, and participation for autistic children with sensory processing differences.

AUDITORY INTEGRATION THERAPY (AIT)

Clinical Context and Therapy Purpose

The purpose of AIT in individuals who have developmental disorders is to provide a treatment option that is an alternative to or an improvement on existing therapies.

Systematic Reviews

In their systematic review of sensory interventions conducted for AHRQ, Weitlauf et al (2017) included 4 RCTs of auditory integration therapy.[5] Two small, short-term RCTs with moderate risk of bias reported no significant differences between auditory integration and control groups in language outcomes assessed on parent, teacher, and clinician observation measures.[10,11] Two other RCTs, reported in a single publication, reported some parent-rated improvement in hearing sensitivity, spontaneous speech, listening, and behavioral organization, but no difference in other behavioral domains rated.[12] Overall, the reviewers concluded that there is low strength evidence that auditory integration-based approaches do not improve language outcomes.

A 2011 Cochrane review evaluated auditory integration training along with other sound therapies for autism spectrum disorders.[1] Included were 6 randomized controlled trials of auditory integration therapy and one of Tomatis therapy, involving a total of 182 subjects aged 3 to 39 years. For most of the studies, the control condition consisted of listening to unmodified music for the same time as the active treatment group. Allocation concealment was inadequate for all studies, and 5 of the trials had fewer than 20 participants. Meta-analysis could not be conducted. Three studies did not demonstrate any benefit of auditory integration therapy over control conditions, and 3 studies had outcomes of questionable validity or outcomes that did not achieve statistical significance. The review found no evidence that auditory integration therapy is an effective treatment for autism spectrum disorders; however, evidence was not sufficient to prove that it is not effective.

In the 2015 systematic review by Brondino et al (described above) examined complementary and alternative therapies for autism, the authors identify the same 6 RCTs of AIT that were included in the 2011 Cochrane review.[1] Similar to the Cochrane review, Brondino et al concluded that the largest studies did not report an improvement with AIT.

Section Summary: Auditory Integration Therapy (AIT)

The largest body of evidence related to the use of AIT is in the treatment of autism. A 2011 Cochrane review and several earlier systematic reviews generally found that studies of auditory integration therapy failed to demonstrate meaningful clinical improvements. No subsequent comparative studies of auditory integration therapy were identified.

SUPPLEMENTAL INFORMATION

The purpose of the following information is to provide reference material. Inclusion does not imply endorsement or alignment with the evidence review conclusions.

CLINICAL INPUT FROM PHYSICIAN SPECIALTY SOCIETIES AND, ACADEMIC MEDICAL CENTERS AND EXTERNAL STAKEHOLDERS

2025

BCBSM held multiple discussions with internal and external clinical experts in the field. These discussions and our comprehensive evidentiary review led to a conclusion that ASI is a valuable tool used to treat pediatric individuals with autism who have sensory processing issues that lead to deficient ability to form an adaptive response to their environment. Contemporary reviews focusing on studies adhering to the ayres protocols for SIT confirm the effectiveness of this treatment modality to approve goals centered on functional task improvement when therapy is integrated into a comprehensive treatment plan.

PRACTICE GUIDELINES AND POSITION STATEMENTS

Guidelines or position statements will be considered for inclusion in ‘Supplemental Information' if they are issued by, or jointly by, a US professional society, an international society with US representation, or National Institute for Health and Care Excellence (NICE). Priority will be given to guidelines that are informed by a systematic review, include strength of evidence ratings, and include a description of management of conflict of interest.

American Academy of Pediatrics

A 2012 policy statement by the AAP on SI therapies for children with developmental and behavioral disorders states, “occupational therapy with the use of sensory-based therapies may be acceptable as one of the components of a comprehensive treatment plan. However, parents should be informed that the amount of research regarding the effectiveness of sensory integration therapy is limited and inconclusive.” The AAP indicates that these limitations should be discussed with parents, along with instruction on how to evaluate the effectiveness of a trial period of SIT.[13]

In 2020, a clinical report by the American Academy of Pediatrics was published on the identification, evaluation, and management of children with autism spectrum disorder (ASD).[14] Regarding sensory integration therapy, the report stated, "Although sensory-based therapies are among the most commonly requested therapies by caregivers, the evidence supporting their general use remains currently limited". Regarding auditory integration therapy, the report stated, "Evidence to date does not support the use of auditory integration training, in which an individual listens to altered sounds through headphones in an effort to change auditory or other processing".

American Occupational Therapy Association (AOTA)

The 2015 American Occupational Therapy Association (AOTA) guidelines stated: “AOTA recognizes SI [sensory integration] as one of several theories and methods used by occupational therapists and occupational therapy assistants working with children in public and private schools...to “enhance[e] a person’s ability to participate in life through engagement in everyday activities….When children demonstrate sensory, motor, or praxis deficits that interfere with their ability to access the general education curriculum, occupational therapy using an SI approach is appropriate.”[15]

In 2011, the AOTA published evidence-based occupational therapy practice guidelines for children and adolescents with challenges in sensory processing and sensory integration.[16] AOTA gave a level C recommendation for sensory integration therapy for individual functional goals for children, for parent-centered goals, and for participation in active play in children with sensory processing disorder, and to address play skills and engagement in children with autism. A level C recommendation is based on weak evidence that the intervention can improve outcomes, and the balance of the benefits and harms may result either in a recommendation that occupational therapy practitioners routinely provide the intervention or in no recommendation because the balance of the benefits and harms is too close to justify a general recommendation. Specific performance skills evaluated were motor and praxis skills, sensory-perceptual skills, emotional regulation, and communication and social skills. There was insufficient evidence to provide a recommendation on sensory integration for academic and psychoeducational performance (e.g., math, reading, written performance).

American Speech-Language-Hearing Association
In 2004, the American Speech-Language-Hearing Association (ASHA) Working Group on Auditory Integration Training issued a report on AIT.[17] The review concluded, "Despite approximately one decade of practice in this country, this method has not met scientific standards for efficacy and safety that would justify its inclusion as a mainstream treatment for these disorders."

Ongoing and Unpublished Clinical Trials
A search of ClinicalTrials.gov did not identify any studies that would likely influence this review.

Regulatory Status

Sensory integration therapy is a procedure and, as such, is not subject to regulation by the U.S. Food and Drug Administration. No devices designed to provide auditory integration therapy have been cleared for marketing by the FDA.

Government Regulations
National:
The Medicare Benefit Policy Manual. Chapter 15, Covered Medical and Other Health Services. Section 220: Coverage of Outpatient Rehabilitation Therapy Services (Physical Therapy, Occupational Therapy, and Speech-Language Pathology Services) Under Medical Insurance does not specifically address sensory integration or auditory integration services. 97533 is a payable service. Sensory integrative treatments are almost exclusively provided to a pediatric population for responses to environmental demand and are almost exclusively provided for conditions such as autism, developmental disorders, attention deficit hyperactivity disorder, cerebral palsy, and motor apraxia. Similar techniques used in treatment for adults should be coded with CPT code 97112.

97533 is a payable code.

Local:
There is no WPS LCD on this topic.

National Government Services, Local Coverage Determination. LCD for Outpatient Physical and Occupational Therapy Services (L26884, Retired September 2015).

CPT 97533 – Sensory integration
Sensory integrative techniques are performed to enhance sensory processing and promote adaptive responses to environmental demands. These treatments are performed when a deficit in processing input from one of the sensory systems (e.g., vestibular, proprioceptive, tactile, visual or auditory) decreases an individual's ability to make adaptive sensory, motor and behavioral responses to environmental demands. Individuals in need of sensory integrative treatments demonstrate a variety of problems, including sensory defensiveness, over-reactivity to environmental stimuli, attention difficulties, and behavioral problems.

Sensory integration treatments are often associated with pediatric populations. For non-pediatric patients, these services may be medically necessary for acquired sensory problems resulting from head trauma, illness, or acute neurologic events including cerebrovascular accidents. They are not appropriate for patients with progressive neurological conditions without potential for functional adaptation. Therapy is not considered a cure for sensory integrative impairments but is used to facilitate the development of the nervous system's ability to process sensory input differently. Utilization of this service should be infrequent for Medicare patients.

Supportive Documentation Recommendations for 97533

- Objective assessments of the patient's sensory integration impairments and functional limitations
- Describe the treatment techniques used that will improve sensory processing and promote adaptive responses to environmental demands, and the patient's response to the intervention, to support that the skills of a therapist were required

(The above Medicare information is current as of the review date for this policy. However, the coverage issues and policies maintained by the Centers for Medicare & Medicare Services [CMS, formerly HCFA] are updated and/or revised periodically. Therefore, the most current CMS information may not be contained in this document. For the most current information, the reader should contact an official Medicare source.)

Related Policies

Cognitive Rehabilitation

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The articles reviewed in this research include those obtained in an Internet based literature search for relevant medical references through December 2025, the date the research was completed.

Joint BCBSM/BCN Medical Policy History

Policy Effective Date	BCBSM Signature Date	BCN Signature Date	Comments
6/16/03	6/13/03	6/2/03	Joint policy established
1/20/05	1/20/05	1/13/05	Routine Maintenance
7/1/08	5/17/08	6/27/08	Routine Maintenance
7/1/10	4/20/10	4/20/10	Routine Maintenance
11/1/12	8/21/12	8/21/12	Routine maintenance. References updated; no change in policy status.
11/1/13	8/22/13	8/27/13	Routine maintenance. Policy updated to mirror BCBSA. No change to policy position.
5/1/1/5	2/17/15	2/27/15	Routine maintenance. No change in policy position. Updated title to include auditory integration
7/1/16	4/19/16	4/19/16	Routine maintenance, no change in policy status.
7/1/17	4/18/17	4/18/17	Updated rationale and references (added #7 and 8). No change in policy status.
7/1/18	4/17/18	4/17/18	Routine policy maintenance. No change in policy status.
7/1/19	4/16/19		Routine policy maintenance. No change in policy status.
7/1/20	4/14/20		Routine policy maintenance. No change in policy status.
7/1/21	4/20/21		Routine policy maintenance. Added references 6, 11, 12 and 15. No change in policy status.
7/1/22	4/19/22		Routine policy maintenance, no change in policy status.
7/1/23	4/18/23		Updated rationale, removed references 8 & 9. No change in policy status. Vendor managed: N/A. (ds)
7/1/24	4/16/24		Routine policy maintenance, no change in policy status. Vendor managed: Evicore (ds)

7/1/25	4/15/25		Routine policy maintenance, no change in policy status. Vendor managed: Evicore (ds)
3/1/26	12/16/25		Status changed for sensory integration therapy to EST with criteria, rationale updated, references added, code 97533 moved to established. Vendor managed: Evicore (ds)

Next Review Date: 4th Qtr. 2026

BLUE CARE NETWORK BENEFIT COVERAGE
POLICY: SENSORY AND AUDITORY INTEGRATION THERAPY

I. Coverage Determination:

Commercial HMO (includes Self-Funded groups unless otherwise specified)	Covered with criteria
BCNA (Medicare Advantage)	See government section.
BCN65 (Medicare Complementary)	Coinsurance covered if primary Medicare covers the service.

II. Administrative Guidelines:

- The member's contract must be active at the time the service is rendered.
- Coverage is based on each member's certificate and is not guaranteed. Please consult the individual member's certificate for details. Additional information regarding coverage or benefits may also be obtained through customer or provider inquiry services at BCN.
- The service must be authorized by the member's PCP except for Self-Referral Option (SRO) members seeking Tier 2 coverage.
- Services must be performed by a BCN-contracted provider, if available, except for Self-Referral Option (SRO) members seeking Tier 2 coverage.
- Payment is based on BCN payment rules, individual certificate and certificate riders.
- Appropriate copayments will apply. Refer to certificate and applicable riders for detailed information.
- CPT - HCPCS codes are used for descriptive purposes only and are not a guarantee of coverage.