

SENSORY INTEGRATION THERAPY AND AUDITORY INTEGRATION TRAINING

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INSTRUCTIONS FOR USE

This Medical Policy provides assistance in interpreting UnitedHealthcare benefit plans. When deciding coverage, the enrollee specific document must be referenced. The terms of an enrollee's document (e.g., Certificate of Coverage (COC) or Summary Plan Description (SPD) and Medicaid State Contracts) may differ greatly from the standard benefit plans upon which this Medical Policy is based. In the event of a conflict, the enrollee's specific benefit document supersedes this Medical Policy. All reviewers must first identify enrollee eligibility, any federal or state regulatory requirements and the enrollee specific plan benefit coverage prior to use of this Medical Policy. Other Policies and Coverage Determination Guidelines may apply. UnitedHealthcare reserves the right, in its sole discretion, to modify its Policies and Guidelines as necessary. This Medical Policy is provided for informational purposes. It does not constitute medical advice.

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COVERAGE RATIONALE

Sensory integration therapy is unproven for the treatment of any condition including the following:

- Learning disabilities
- Developmental delay
- Sensory integration disorder
- Autism spectrum disorder
- Cerebrovascular accident
- Speech disturbances
- Lack of coordination
- Abnormality of gait

The available studies of sensory integration therapy are weak and inconclusive and derived primarily from poorly controlled trials with methodological flaws. These trials fail to demonstrate

that sensory integration therapy provides long-term improvement in neurological development and behavioral development. There is no reliable data from well designed clinical studies that indicate that sensory integration therapy improves clinical outcomes in patient with cerebrovascular accidents, speech disturbances, gait abnormalities, or other medical conditions. Further and better designed clinical trials of sensory integration therapy are necessary in order to establish their clinical usefulness.

Auditory integration training (AIT) is unproven.

There is insufficient reliable data indicating that AIT devices significantly improve behavior, language, listening ability, or learning ability. AIT is based on the unproven theory that some disorders are caused by hearing or listening deficiencies. It is unknown if the sound levels used for AIT are harmful to hearing.

APPLICABLE CODES

The Current Procedural Terminology (CPT®) codes and Healthcare Common Procedure Coding System (HCPCS) codes listed in this policy are for reference purposes only. Listing of a service code in this policy does not imply that the service described by this code is a covered or non-covered health service. Coverage is determined by the enrollee specific benefit document and applicable laws that may require coverage for a specific service. The inclusion of a code does not imply any right to reimbursement or guarantee claims payment. Other policies and coverage determination guidelines may apply. This list of codes may not be all inclusive.

CPT® Code	Description
97533	Sensory integrative techniques to enhance sensory processing and promote adaptive responses to environmental demands, direct (one-on-one) patient contact, each 15 minutes

DESCRIPTION OF SERVICES

Sensory Integration Therapy

Sensory integration refers to the process by which the brain organizes and interprets external stimuli such as touch, movement, body awareness, sight, sound, and gravity. It has been postulated that certain behavioral and emotional problems result from the malfunctioning of this process. The term "sensory integration disorder (SID)" is used to characterize children who exhibit exaggerated sensitivity to sensory stimuli (Heilbronner, 2005).

Sensory integration therapy (SIT) seeks to improve perception and integration of sensory information and thereby help children with learning disabilities improve their sensorimotor skills. In theory, this will result in improved behavior and academic performance. Therapy is usually provided by an occupational therapist (OT), and combines primitive forms of sensation with motor activity during an individual therapy session that typically lasts 60 to 90 minutes. The therapist provides vestibular, proprioceptive, and tactile stimulation during activities designed to elicit appropriate adaptive motor responses. Sensory integration techniques include the use of textured mitts, carpets, scooter boards, ramps, swings, bounce pads, suspended equipment, and weighted vests and blankets to encourage a noncognitive, creative, and explorative process. Therapy is usually given in 1 to 3 sessions per week over several months or a few years and it does not involve tutoring, the more traditional approach to treatment of learning disabilities (Salokorpi, 2002; Uyanik, 2003).

Different types of sensory integration therapy have been used to treat sensory integration disorder, including Snoezelen, a multisensory environment designed to offer individuals with special needs the opportunity to exercise choice through action.

Auditory Integration Training

Auditory Integration Training (AIT) is a method of reducing painful hypersensitivity to sound in which the recipient listens to specially modulated music to potentially improve the ability to process auditory stimuli." In appropriate candidates for AIT, the treatment program for AIT consists of 20 half-hour sessions during a 10- to 12-day period, with 2 sessions conducted on a daily basis. These sessions consist of listening to music that has been computer-modified by a device called an AudioKinetron. To resolve whether extra sessions are needed, audiograms are repeated midway, and at the end of the training session. (ECRI, 2010)

CLINICAL EVIDENCE

The clinical evidence was reviewed on November 7, 2013 with no additional information identified that would change the unproven conclusion for either Sensory Integration Therapy or Auditory Integration Training.

Sensory Integration Therapy:

Pfeiffer et al. (2011) evaluated the effectiveness of sensory integration (SI) interventions in children with autism spectrum disorders (ASD). Thirty-seven children (ages 6-12) with ASD were randomly assigned to a fine motor or SI treatment group. Significant improvements were observed, including goal attainment (sensory processing and regulation, functional motor skills, and social-emotional skills), although the effect size was small when rated by parents (0.125) and moderate when rated by teachers (0.360). Autistic mannerisms, measured by a subscale of the Social Responsiveness Scale (SRS), also significantly improved compared with controls, with a small effect size (0.131). No other significant differences were reported in other behavioral measures, such as the Sensory Processing Measure (SPM) or the Vineland Adaptive Behavior Scales, 2nd Edition (VABS-2). No follow-up assessments beyond the study endpoint were conducted. The significance of this study is limited by small sample size and short follow-up period.

A randomized controlled trial conducted by Fazlioglu et al. (2008) examined the effects of a sensory integration (SI) protocol on low-functioning children (ages 7 to 11) with autism. Study participants were randomized to a treatment group (n=15) and a control group (n=15). The control group patients did not participate in SI program, but attended regularly scheduled special education classes. The intervention program used in this study was based on "The Sensory Diet" and included a prescribed schedule of somatosensory stimulation activities targeting 13 behaviors across sensory modalities and motor skills development and conducted in a specially arranged sensory room. The results from the study suggested that sensory integration programs have positive effects on behaviors of children with autism. Study limitations include lack of power analysis to determine if study had enough power to accurately detect differences between treatment and controls and lack of a follow up period.

In a pilot randomized controlled trial by Miller et al. (2007) the effectiveness of occupational therapy using a sensory integration approach was conducted with children who had sensory modulation disorders. Twenty-four children were randomly assigned to one of three treatment groups: occupational therapy using a sensory integration, activity protocol, and no treatment. Pretest and post-test measures of behavior, sensory and adaptive functioning, and physiology were evaluated. Comparisons among the 3 groups showed that the occupational therapy using a sensory integration group made significant gains on goal attainment scaling and on the Attention subtest and the Cognitive/Social composite of the Leiter International Performance Scale-Revised. The occupational therapy using a sensory integration group showed improvement trends in the hypothesized direction on the Short Sensory Profile, Child Behavior Checklist, and electrodermal reactivity. These findings suggest that occupational therapy using a sensory integration may be effective in ameliorating difficulties of children with sensory modulation disorders; however, larger randomized controlled studies are needed to determine whether occupational therapy using sensory integration is an effective intervention.

Twenty-seven studies were systematically reviewed to identify, evaluate, and synthesize the research literature on the effectiveness of sensory integration (SI) intervention on the ability of children with difficulty processing and integrating sensory information to engage in desired occupations and to apply these findings to occupational therapy practice. Results suggest the SI approach may result in positive outcomes in sensorimotor skills and motor planning; socialization, attention, and behavioral regulation; reading-related skills; participation in active play; and achievement of individualized goals. Gross motor skills, self-esteem, and reading gains may be sustained from 3 months to 2 years. Findings may be limited by Type II error because of small sample sizes, variable intervention dosage, lack of fidelity to intervention, and selection of outcomes that may not be meaningful to clients and families or may not change with amount of treatment provided. According to the authors, replication of findings with methodologically and theoretically sound studies is needed to support current findings (May-Benson 2010).

Chan et al. (2010) systematically reviewed studies that investigated the effects of multisensory environment in relation to outcomes. One hundred and thirty-two studies were identified from database search of which 17 met the inclusion criteria for review. The evidence supports that participants' had displayed more positive behavior after multisensory therapy sessions. There is no strong evidence supporting that multisensory therapy could help in reducing challenging behavior or stereotypic self-stimulating behavior. According to the authors, this systematic review demonstrates a beneficial effect of multisensory therapy in promoting participants' positive emotions. While the authors acknowledge the difficulty in carrying out randomized controlled trial in people with developmental disabilities and challenging behavior, the lack of trial-derived evidence makes it difficult to arrive at a conclusion of the effectiveness of the multisensory therapy.

A meta-analysis by Vargas et al. (1999) was conducted to determine whether existing studies of treatment using sensory integration approaches support the efficacy of sensory integration treatments. Sixteen studies were used to compare sensory integration therapy with no treatment, and 16 studies were used to compare sensory integration therapy with alternative treatments. Results showed a significant difference between the average size of effect of the earlier studies compared to more recent studies. Earlier studies showed large treatment effects favoring SI over no-treatment controls. More recent studies did not show overall positive effects. While general limitations in the methods and statistical analyses of the primary studies were summarized, there was no description of the characteristics of the individual articles.

Lotan et al. (2009) evaluated the therapeutic influence of the Snoezelen approach which is a multisensory intervention approach. Twenty-eight relevant articles relating to individual (one-to-one) Snoezelen intervention with individuals with intellectual and developmental disabilities (IDD) were reviewed. A meta-analysis regarding the significance of the reduction of maladaptive behavior and the enhancement of adaptive behavior was implemented. The authors concluded that weaknesses in the examined research methodologies, the heterogeneity between research designs, the small number of available research projects, and the small number of participants in each research project, prevent a confirmation of this method as a valid therapeutic intervention at this time.

Smith et al. (2005) conducted a study to compare the effects of occupational therapy, using a sensory integration approach along with a control intervention of tabletop activities, on the frequency of self-stimulating behaviors in 7 children, ranging in age from 8-19, with pervasive developmental delay and mental retardation. During the 4 week study period, daily 15-min videotape segments were recorded before, immediately after, and 1 hour after either sensory integration or control interventions were performed. Results indicated no change in self-stimulating behaviors occurred immediately following sensory integration intervention or tabletop activity intervention; however, the frequency of self-stimulating behaviors significantly declined one hour after therapy. Limitations with the study included the small sample size and short-term follow-up. Continued research is needed to examine the long-term effects of more extensive intervention.

Wuang et al. (2009) compared the effect of sensory integrative (SI) therapy, neurodevelopmental treatment (NDT), and perceptual-motor (PM) approach on children with mild mental retardation. A total of 120 Children were randomly assigned to intervention with SI, NDT, or PM; another 40 children served as control participants. All children were assessed with measures of sensorimotor function. After intervention, the treatment groups significantly outperformed the control group on almost all measures. The SI group demonstrated a greater pretest-posttest change on fine motor, upper-limb coordination, and SI functioning. The PM group showed significant gains in gross motor skills, whereas the NDT group had the smallest change in most measures. Confidence in the conclusions about the efficacy of SI for improvements in sensorimotor function among children with mild mental retardation was reduced by the restricted age range (ages 7 to 8) of the study sample, a nonequivalent control group, differences in the intensity and frequency of home practice sessions, and a lack of long-term follow-up.

Smania et al. (2008) evaluated whether balance exercises performed under various sensory input manipulations can improve postural stability and/or walking ability in patients with stroke in 7 patients. Patient performance was assessed before, immediately after and one week after treatment (consisting of 20 one-hour daily sessions of several balance exercises) by means of the Sensory Organization Balance Test and the Ten Metre Walking Test. Before treatment, all patients showed balance impairment with difficulty integrating somatosensory information from the lower extremities and excessive reliance upon visual input in standing balance control. After treatment, balance and walking speed significantly increased and this improvement was maintained for one week. The study design (case series) did not allow for any generalizable conclusions about efficacy. Statistical methodologies were limited by the small sample size. Conclusions about relative benefit/risk could not be reached due to the lack of a control and/or a comparative group. The follow-up at one week post-treatment did not allow for assessment of intermediate and long-term outcomes.

Collins et al. (2011) evaluated the effectiveness of a weighted vest for children with difficulty attending to tasks. Ten participants were randomly assigned to an intervention or a control group to compare participants' percentage of time on task with and without a vest. Control group participants wore a non-weighted vest. Participants, classroom teachers, and research assistants who coded the data were blind as to the group to which the participants were assigned. The results of the study indicated that the weighted vests were not effective in increasing time on task. According to the authors, these results should be generalized cautiously owing to the small sample size and participant selection process.

Hodgetts et al. (2010) conducted a small, randomized and blinded study measuring the effects of wearing a weighted vest on stereotyped behaviors and heart rate for six children with autism in the classroom. Weighted vests did not decrease motoric stereotyped behaviors in any participant. Verbal stereotyped behaviors decreased in one participant. Weighted vests did not decrease heart rate. Heart rate increased in one participant. According to the investigators, based on this study, the use of weighted vests to decrease stereotyped behaviors or arousal in children with autism in the classroom was not supported.

Stephenson et al. (2009) reviewed 7 studies examining weighted vests. The investigators concluded that while there is only a limited body of research and a number of methodological weaknesses, on balance, indications are that weighted vests are ineffective.

In recently published practice guidelines for therapies in children with autism spectrum disorders, the Agency for Healthcare Research and Quality (AHRQ) describes sensory integration and sensory-based interventions as one of several interventions in which autistic children may participate. According to the report, data from studies were insufficient to rate the strength of evidence related to sensory and auditory integration training for improving language skills, challenging behaviors, or cognitive ability in low functioning children with autism (Warren et al., 2011).

Evidence in the published, peer-reviewed literature does not support the efficacy of sensory integration therapy for sensory integration disorders, learning disabilities, developmental delays, or autism. There is no reliable data from well-designed clinical studies that report the clinical usefulness of sensory integration therapy for cerebrovascular accidents, speech disturbances, gait abnormalities, and other medical conditions. No consistent positive effects of wearing of weighted vests have been demonstrated. The role of sensory integration therapy in the management of these conditions is unknown at this time.

Professional Societies

American Academy of Pediatrics (AAP): The AAP Section on Complementary and Integrative Medicine; Council on Children with Disabilities released a policy statement for sensory integration therapies for children with developmental and behavioral disorders. They state that it is unclear whether children who present with sensory-based problems have an actual "disorder" of the sensory pathways or whether these deficits are associated with other developmental and behavioral disorders. The AAP notes that because there is no universally accepted framework for diagnosis, sensory processing disorder generally should not be diagnosed. According to the report, 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 research regarding the effectiveness of sensory integration therapy is limited and inconclusive. Important roles for pediatricians and other clinicians may include discussing with families about a trial period of sensory integration therapy and teaching families how to evaluate the effectiveness of this therapy (AAP 2012).

The AAP Committee on Children with Disabilities has stated that the scientific legitimacy of sensory integration therapy has not been established for children with motor disabilities. The AAP also states that successful therapy programs are individually tailored to meet the child's functional needs and should be comprehensive, coordinated, and integrated with educational and medical treatment plans, with consideration of the needs of parents and siblings. This can be facilitated by primary care pediatricians and tertiary care centers working cooperatively to provide care coordination in the context of a medical home (AAP, 2004). A statement of reaffirmation for this policy was published on September 1, 2007.

The AAP Council on Children with Disabilities published guidelines for the management of children with autism spectrum disorders. Regarding sensory integration therapy, the guidelines state that sensory integration (SI) therapy is used alone or as part of a broader program of occupational therapy for children with autism spectrum disorders (ASDs). Unusual sensory responses are common in children with ASDs, but there is not good evidence that these symptoms differentiate ASDs from other developmental disorders, and the efficacy of SI therapy has not been demonstrated objectively. Available studies are plagued by methodologic limitations, but proponents of SI note that higher-quality SI research is forthcoming (Myers, et al., 2007).

The American Occupational Therapy Association (AOTA): The AOTA Commission on Practice recognizes sensory integration therapy as one of several frames of reference that a therapist may use and apply in the process of occupational therapy for students who show deficits in sensory integration that contribute to a significant, documented discrepancy in their skills within an educational program (Tomchek and Case-Smith, 2009).

The AOTA has issued occupational therapy practice guidelines for children and adolescents with challenges in sensory processing and sensory integration (Watling et al. 2011). According to the guidelines, there is moderate evidence that occupational therapy practitioners should routinely provide sensory integration intervention to eligible clients for the following indications (at least fair evidence was found that the intervention improves important outcomes and concludes that benefits outweigh harm):

- Sensory integration for gross motor and motor planning skills for children with learning disabilities
- Sensory integration to address maladaptive behaviors in children with problems in sensory processing
- Sensory integration to address self-esteem in children with learning disabilities and sensory integrative dysfunction
- Sensory integration approach to reduce the amplitude of electrodermal responses in children with problems in sensory modulation, indicating a decreased stress response to repetitive and potentially noxious sensory stimuli

The guidelines also indicate that there is insufficient evidence to determine whether or not occupational therapy practitioners should routinely provide sensory integration intervention for academic and psychoeducational performance (e.g., math, reading, written language) or sensory integration intervention to increase nystagmus in children with reading delays and problems in sensory integration.

Association for Comprehensive Neurotherapy (ACN): The ACN states that sensory integration therapy is beneficial for some types of learning disabilities and is considered a useful component of a multidisciplinary approach to autism (ACN, 2007).

Additional Search Terms

Perceptual-motor approach, PM, PRN, reflex integration

Auditory Integration Training

Review of published, peer reviewed literature did not identify any additional studies since 2008.

Autism

The Agency for Healthcare Research and Quality (AHRQ) published a comparative effectiveness review of therapies for children with autism spectrum disorders. The review was prepared by the Vanderbilt Evidence-based Practice Center (Warren, et al., 2011). Among the allied health therapies in the review were auditory integration therapy. The research provided little support for their use. Specifically, two fair-quality studies of auditory integration showed no improvement associated with treatment.

Scottish Intercollegiate Guidelines Network (SIGN) (2007) guidelines do not recommend auditory integration training.

An assessment of auditory integration therapy (AIT) for autism by the Wessex Institute concluded that trials have produced conflicting results, and it is uncertain whether AIT is any more effective than placebo (Best and Milne, 1997). A systematic evidence review by Cullen et al (1999) concluded: "Previous claims for the benefits of AIT in reduction of problem behaviors and increases in IQ and adaptive/social skills were not supported by the results. AIT may divert parents' and service providers' resources from better-validated interventions".

Sinha et al. (2004) conducted a systematic review to evaluate AIT and included 6 randomized controlled trials (RCTs) with 171 autistic individuals. Three RCTs did not demonstrate the benefit of AIT over control conditions. The remaining trials identified improvements at 3 months for the AIT group based on improvements of total mean scores for the Aberrant Behavior Checklist, which is of questionable validity. There were no reported significant adverse effects of AIT. The reviewers concluded that more research is needed to determine the effectiveness of AIT for autism.

Mudford et al. (2000) reported on a controlled crossover design study of 16 children with autism. Treatment was with either AIT or placebo control. The children were rated on behavior by both parents and teachers. No differences were noted by the teacher-rated measures and 56% of parents were unable to retrospectively report when their child had received AIT. Children's language comprehension did not increase. Decreases were noted in adaptive/social behavior

scores and expressive language quotients.

Bettison (1996) reported on 80 children with autism or Asperger syndrome who were randomized to 2 groups. One received AIT and the other listened to unmodified music. Significant improvements in behavior and verbal and performance IQ were demonstrated by both groups 12 months after intervention.

Central Auditory Processing Disorder

In a 1998 published study, Yencer (1998) found no meaningful changes based on statistical analysis, between the experimental group that received AIT and a placebo group that listened to the same music which was non-altered. The study group was 36 children with auditory processing deficits. Zollweg et al. (1997) reported no improvement for the experimental group compared to placebo, based on pure tone thresholds, the Aberrant Behavior Checklist, and a loudness discomfort test. Both studies show the necessity of using control groups, because without them it would appear that there was significant improvement with the AIT. This finding is likely why case reports alone have reported such positive findings.

Auditory integration therapy and music therapy have been proposed for use in patients with central auditory processing disorder; however, no new studies that provide substantial new evidence were found.

Depression

In a randomized, blinded, placebo-controlled crossover experiment in 4 healthy adult subjects by Wahbeh et al. (2007b), the neuropsychologic, physiologic, and electroencephalographic effects of binaural beat technology was assessed. Subjects were randomized to experimental auditory stimulus of 30 minutes of binaural beat at 7 Hz (carrier frequencies: 133 Hz L; 140Hz R) with an overlay of pink noise resembling the sound of rain on one session and control stimuli of the same overlay without the binaural beat carrier frequencies on the other session. Neuropsychologic and blood pressure data were collected before and after the intervention; electroencephalographic data were collected before, during, and after listening to either binaural beats or control. There were no significant differences between the experimental and control conditions in any of the EEG measures. There was an increase of the Profile of Mood States depression subscale in the experimental condition relative to the control condition ($p = 0.02$). There was also a significant decrease in immediate verbal memory recall ($p = 0.03$) in the experimental condition compared to control condition. The data indicated increased depression and poorer immediate recall after listening to binaural beats however support for steady-state entrainment of the scalp-recorded EEG while listening to 7-Hz binaural beats was not found and larger studies are needed to confirm these findings.

Epilepsy

Although auditory integration therapy has been proposed for use in patients with epilepsy, only one limited pilot clinical trial was available for review. Further studies are needed to determine the safety and efficacy of AIT therapy for the treatment of epilepsy.

Migraine Headache

In a study by Trinkka et al. (2002), 32 patients with migraine without any pharmacological migraine prophylaxis in the past three months were studied utilizing auditory electrophysiological intervention. A randomized, double-blind, placebo-controlled study with a parallel group add on design and a 12-week treatment phase was conducted in a large outpatient headache clinic in a neurological center. The electrophysiological stimulation with sound therapy applied via headphones three times a day for 10 minutes was compared against a placebo audiotape. The main outcome measure was a change in the headache subtest of a self-report test instrument, Giessener Beschwerdebogen (GGB), after 12 weeks of treatment. No adverse events occurred during the treatment period. The small sample studied utilized the Psychofonie and showed promise as an add-on treatment in reducing subjective pain in migraine patients. The study is limited by small sample size and short term follow-up.

Mood Disorder

In another study by Wahbeh et al. (2007a), 8 healthy adults participated in an uncontrolled pilot study to assess the psychologic and physiologic effects of binaural beat technology. Participants listened to a CD with delta (0-4 Hz) binaural beat frequencies daily for 60 days. Psychological data on depression (Beck Depression Inventory-2), anxiety (State-Trait Anxiety Inventory), mood (Profile of Mood States), absorption (Tellegen Absorption Scale) and quality of Life (World Health Organization-Quality of Life Inventory) was reviewed. Physiological data such as cortisol, dehydroepiandrosterone, melatonin, insulin-like growth factor-1, serotonin, dopamine, epinephrine, norepinephrine, weight, blood pressure, high sensitivity C-reactive protein was also collected. There was a decrease in trait anxiety ($p = 0.004$), an increase in quality of life ($p = 0.03$), and a decrease in insulin-like growth factor-1 ($p = 0.01$) and dopamine ($p = 0.02$) observed between pre- and post intervention measurements. Binaural beat technology may exhibit positive effect on self-reported psychological measures, especially anxiety; however, further research is warranted to explore the effects on anxiety using a larger, randomized and controlled trial.

Professional Societies

The American Academy of Pediatrics considers AIT and facilitated communication (FC) to be a controversial treatment option for autism and other disorders (AAP, 1998/2010). The AAP further states that in the absence of good, controlled studies and until further information are available; the use of these AIT devices does not appear warranted at this time, except within research protocols.

The American Academy of Audiology (AAA): A 2010 position statement by the AAA concludes that Auditory Integration Training (by any name) is investigational. The Academy believes that prospective, systematic research of this technique is needed to demonstrate its efficacy.

American Speech-Language-Hearing Association (ASHA): ASHA prepared an evidenced-based technical report regarding AIT (ASHA, 2004). They noted that, despite approximately one decade of practice, this method has not met scientific standards for efficacy and safety that would justify its inclusion as a mainstream treatment for a variety of communication, behavioral, emotional and learning disorders.

Educational Audiology Association (EAA): The EAA issued a position statement regarding AIT (EAA, 1997). They stated that "Auditory integration therapy has not been proven to be a viable treatment for any disability. Only inconsistent, uncontrolled, anecdotal evidence has been provided to support claims of changes in auditory performance." In addition, the position statement noted that without controls to protect against excessively loud auditory stimuli, AIT may cause harm to the auditory system.

Additional Search Terms

Acoustic stimulation, acoustic training, audio-psycho-phonology, discrimination learning

U.S. FOOD AND DRUG ADMINISTRATION (FDA)

Sensory Integration Therapy

The equipment used for sensory integration therapy is not considered medical and therefore not regulated by the FDA.

Auditory Integration Training

Auditory integration training (AIT) devices do not have FDA approval for treating medical, behavioral, or emotional disorders. The FDA has banned the importation of AIT devices such as AudioKinotron (SAPP, France) and Electronic Ear (Tomatis Electronics, France).

Additional information regarding alerts of unapproved devices may be obtained from the U.S.

Food and Drug Administration [Website] at:
http://www.accessdata.fda.gov/cms_ia/importalert_244.html. Accessed November 7, 2013

Additional Medical Products

Earducator, Audio Effects Generator, Digital Auditory Aerobics, Kirby Auditory Modulation System

CENTERS FOR MEDICARE AND MEDICAID SERVICES (CMS)

Medicare does not have a National Coverage Determination (NCD) for sensory integration therapy (SIT).

Local Coverage Determinations (LCDs) specific to SIT do not exist. There are LCDs that address Current Procedural Terminology (CPT) code 97533. Refer to the LCDs for [Home Health - Occupational Therapy](#), [Home Health Speech-Language Pathology](#), [Medicine: Occupational Therapy – Outpatient](#), [Medicine: Physical Therapy – Outpatient](#), [Outpatient Occupational Therapy](#), [Outpatient Physical and Occupational Therapy Services](#), [Outpatient Physical Therapy](#), [Outpatient Rehabilitation Therapy Services billed to Medicare Part B](#), [Physical Medicine & Rehabilitation Services](#), [Physical Therapy and Occupational Therapy](#), [Physical Therapy - Home Health](#), [Speech - Language Pathology \(SLP\) Services: Communication Disorders](#), [Speech-Language Pathology](#), [Therapy and Rehabilitation Services](#) and [Therapy Services \(PT, OT, SLP\)](#).

For Medicare's coverage information for occupational therapy, refer to the Medicare Benefit Policy Manual, Chapter 15, §230.2 Practice of Occupational Therapy at <http://www.cms.hhs.gov/manuals/Downloads/bp102c15.pdf>. (Accessed November 7, 2013)

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POLICY HISTORY/REVISION INFORMATION

Date	Action/Description
03/01/2014	<ul style="list-style-type: none"> • Reorganized and renamed policy; combined content previously outlined in policies titled <i>Sensory Integration Therapy</i> and <i>Auditory Integration Training</i> • Updated description of services to reflect most current clinical evidence, CMS information and references; no change to coverage rationale or lists of applicable codes • Archived previous policy version 2013T0314K