VCHCP Ventura County Health Care Plan

Medical Policy: **Sensory Integration Therapy, Auditory Integration Training, & Facilitated Communication Policy**

Effective Date**:**
Reviewed: November 7, 2011
Archive 05.10.12

Sensory Integration Therapy, Auditory Integration Training, & Facilitated Communication – Archive on 05.10.12; Requests need to be referred to Optum Behavioral Health

Definitions:

- Sensory integration therapy (SIT) focuses on desensitizing and helping the person reorganize sensory information.
- Auditory integration training is proposed to reduce over-sensitivity to sound.
- Facilitated communication is a method that purports to help people with speech or expressive problems to point to spell out words and sentences. Usually, the facilitator holds the client's hand, wrist or arm in his/her hand prompting the patient to pick out letters on a letterboard or keyboard.

This policy addresses sensory integration therapy, auditory integration training, and facilitated communication.

Policy:

VCHCP considers sensory and auditory integration training, and facilitated communication therapies experimental and investigational for the management of persons with various communication, behavioral, emotional, and learning disorders and for all other indications. The effectiveness of these therapies is unproven. Therefore, these therapies are considered not medically necessary by VCHCP.

Background

Sensory Integration (SI) 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. Sensory integration therapy (SIT) is a type of treatment, usually performed by occupational therapists or physical therapists. The patient is exposed to various sensory stimulations with the goal of improving how the brain processes and organizes sensory information. This type of therapy may require activities that consist of full body movements employing different kinds of equipment such as textured mitts, carpet squares, scooter boards, ramps, swings, and bounce pads. It is believed that SIT does not teach higher level skills, but enhances the sensory processing abilities of the subject to acquire them. For instance, for tactile-sensitivity problems (under- or over-sensitivity), there are brushing techniques which use firm strokes with a soft surgical brush; for proprioceptive problems (the ability to sense the position and location and orientation and movement of the body and its parts), swinging or jumping on

a small trampoline may be used; for vestibular (balance) problems, the therapist may use walking on a balance beam or balancing on a large "therapy ball" as it moves.

Auditory Integration Training (AIT) is proposed to reduce over-sensitivity to sound. It involves listening to music that has been computer modified to remove frequencies to which an individual demonstrates hypersensitivities and to reduce the predictability of auditory patterns. A special device is used to modify the music for the treatment sessions. The treatment program generally consists of 20 half-hour sessions during a 10-12 day period with two sessions daily. Auditory thresholds are determined via audiograms. The audiogram is reviewed for evidence of hyperacusis, an abnormal sensitivity to sound. A clinical history of sound sensitivities and behavior is also reviewed. Audiograms are repeated midway and at the end of the training session to document progress and to determine if further treatment sessions are necessary.

Facilitated Communication (FC) is a manual prompting, by a trained facilitator, to provide assistance to a non-verbal person in typing out words using a typewriter, computer keyboard or other communication device. FC involves supporting the individual's hand to make it easier to indicate the letters that are chosen, essentially to develop a communicative statement. The patient is allegedly able to communicate through his or her hand to the hand of the facilitator, which then is guided to a letter, word or picture, spelling out words or expressing complete thoughts.

Rationale

There is insufficient scientific data in the peer-reviewed medical literature to support the effectiveness of sensory integration therapy (SIT), auditory integration training (AIT) or facilitated communication (FC) therapies for the treatment of patients with learning disabilities and other behavioral disorders.

The weight of the evidence leads to the conclusion that SIT is not a better method of treatment than traditional therapeutic methods such as tutoring, or for that matter non-treatment itself, for children with learning disabilities. The one consistent result from all of the studies is that there is no advantage for children receiving SI therapy on academic, cognitive, or language measures when compared with more traditional therapies.

Although the use of SIT as a treatment for children with learning disabilities and other behavioral disorders (e.g., autism, attention-deficit disorder, fragile X syndrome, and developmental delay) has been quite popular, there is widespread skepticism regarding its effectiveness. Kaplan et al (1993) stated that SIT is not more effective than other, more conventional methods of treatment for children with learning disabilities. Hoehn and Baumeister (1994) reported that SIT is not only an unproven, but also an ineffective, primary or adjunctive remedial treatment for children with learning disabilities and other disorders.

Tharpe (1996) stated that “Although anecdotal reports and testimonials of positive treatment outcomes abound, there remains a dearth of empirical studies designed to

scrutinize the claims made by proponents of auditory integration therapy. Until such time that auditory integration therapy technology meets the standards of scientific efficacy, it is best considered to be an experimental treatment....” Furthermore, the American Speech-Language-Hearing Association declared that auditory integration training is an experimental procedure because it has not yet satisfied standards for effectiveness that would justify the inclusion of this method as a mainstream treatment for a variety of communication, behavioral, emotional, and learning disorders.

The American Academy of Pediatrics statement indicates that available information does not support the claims of proponents that facilitative communication is effective and therefore considers it experimental. In addition, the American Psychological Association has adopted the position that facilitated communication is a controversial and unproved communicative procedure with no scientifically demonstrated support for its efficacy.

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 auditory integration therapy is any more effective than placebo (Best & 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”.

An assessment conducted by the National Initiative for Autism (UK) (2003) concluded:

> “Auditory integration therapy has also recently been subject to careful analysis, and again the results indicate that the effects are no greater than for placebo conditions [citing Mudford et al, 2000; Dawson and Watling, 2000].”

A meta-analysis of research on sensory integration treatment (Vargas and Camilli, 1999) concluded that more recent studies do not show overall positive effects from sensory or auditory integration therapies.

An assessment conducted by the National Initiative for Autism (UK) (2003) stated:

> “Experimental data in support of a variety of other treatments, such as Facilitated Communication, auditory or sensory integration programmes, psychoanalytically based interventions or teaching methods such as the Son Rise programme (Option), Walden or Daily Life Therapy (Higashi) did not exist”.

An assessment conducted by Hender (2001) for the Centre for Clinical Effectiveness (Monash University) identified no randomized controlled clinical studies of sensory integration therapy for attention-deficit hyperactivity disorder, and identified only one study (by Werry, et al., 1990), a comparative study with concurrent controls. Hender (2001) noted the sources of bias that limit reaching definitive conclusions about the

effectiveness of sensory integration therapy for attention-deficit hyperactivity disorder from this single study.

An assessment conducted by the National Academy of Sciences (NAS) (2001) concluded that there is insufficient evidence of the effectiveness of sensory integration therapy for autism. The NAS report states that "[t]here is a paucity of research concerning sensory integration treatments in autism…. These interventions have also not yet been supported by empirical studies." In addition, the AAP (2001) stated that research data supporting the effectiveness of sensory integration therapy in managing autistic children is scant.

The NAS (2001) concluded that there is insufficient evidence of the effectiveness of auditory integration therapy in autism. The NAS concluded that "auditory integration therapy has received more balanced investigation than has any other sensory approach to intervention, but in general studies have not supported either its theoretical basis or the specificity of its effectiveness."

Tochel (2003) performed a structured evidence review of SIT and AIT for the Wessex Institute. Regarding SIT, the assessment concluded that "[w]e have found insufficient evidence about the clinical effects of sensory integration therapy in children with autistic spectrum disorders." Regarding AIT, the report found "[w]eak evidence from limited research suggests that AIT is unlikely to be more effective than unprocessed music in children with autistic spectrum disorders, although both AIT and unprocessed music may be associated with similar improvement in some scores from baseline. However, the clinical importance of these changes is unclear."

Sinha, et al. (2004) reported on the results of a structured evidence review for the Cochrane Collaboration of AIT for autism. The investigators reported that there is "[n]o clear evidence yet for auditory integration therapy's effect on autism." The investigators explained that "[s]ix relatively small studies met the inclusion criteria for AIT. These largely measured different outcomes and reported mixed results. Suggestion of benefit in two outcomes requires corroboration by further research using well-designed trials with long-term follow-up." The review also concluded that more research is needed to inform parents', carers' and practitioners' decision making about this therapy for individuals with autism spectrum disorders.

A. Attachments : None

B. Author/ Reviewer: Cynthian Wilhelmy MD **Date:** 02-07-06
Committee Review: UM on 02-20-07 & QA on 02-27-07
Reviewed by Sheldon Haas,M.D. (No changes) Date: 06-24-08
Committee Review: UM on 08-07-08 & QA on 08-19-08

C. Reviewed/No Changes by: Faustine Dela Cruz, RN & Albert Reeves, MD Date: 11-7-11
Committee Review: UM on 11/10/11; QAC on 11/22/11:

C. References:

1. American Academy of Audiology. Auditory integration therapy: Position statement. Audiology Today. 1993;5(4):21.
2. American Academy of Pediatrics. http://www.aap.org.
3. American Academy of Pediatrics. Auditory integration training and facilitated communication for autism. Pediatrics. 1998; 102(2):431-433.
4. American Speech-Language-Hearing Association, ASHA. 1994; 36(11):55-58.
5. Association for Science in Autism Treatment (ASAT). Sensory integration. Autism Information. Portland, ME: ASAT; 2001. Available at: http://www.asatonline.org/autism_info12.html.
6. Association for Science in Autism Treatment. http://www.asatonline.org.
7. Best L, Milne R. Auditory integration training in autism. Southampton, UK: Wessex Institute for Health Research and Development; 1997.
8. Blue Cross and Blue Shield Association. Sensory Integration Therapy. TEC Assessment, February 2000; 14(22).
9. Bumin G, Kayihan H. Effectiveness of two different sensory-integration programmes for children with spastic diplegic cerebral palsy.Disabil Rehabil. 2001 Jun 15;23(9):394-9.
10. Carter J, Musher K. Evaluation and treatment of speech and language impairment in children. UpToDate 2000.
11. Case-Smith J, Bryan T. The effects of occupational therapy with sensory integration emphasis on preschool-age children with autism. Am J Occup Ther. 1999;53(5):489-497.
12. Cheer D. Does sensory integration therapy improve motor and cognitive integration dysfunction for children and adults with acquired brain injury. Rehabilitation Therapy CATS: Critically Appraised Topics. Kingston, ON: Queens University; February 26, 2004.
13. Cullen C, Mudford O, Wing L, Millis R. Auditory integration training for autism: Effects on harmful and stigmatising behaviours. Executive Summary. National Health Service Research and Development, National Programmes, Physical & Complex Disabilities. London, UK: National Health Service, Department of Health; March 1999. Available at: http://www.doh.gov.uk/research/rd3/nhsrandd/timeltdprogs/pcd/ funded/completed/a1232es.htm. Accessed October 15, 2003.
14. Dawson G, Watling R. Interventions to facilitate auditory, visual, and motor integration in autism: A review of the evidence. J Autism Dev Disord. 2000; 30(5):415-42.
15. de Rooy M. There is insufficient evidence (level 4) to support or refute sensory integration as an intervention to increase functional play behaviours and decrease non-engaged behaviours in pre-school children with autism. OTCATS: Occupational Therapy Critically Appraised Topics. Penrith, Australia: University of Western Sydney; May 2004.
16. Edelson SM. Auditory integration training: additional information. http://www.autism.org/ait2.html.
17. Education Audiology Association. EEA Position Statement: Auditory Integration Therapy. Tampa, FL: EEA; approved by the EEA Executive Board November 19, 1997.
18. Gresham FM, MacMillan DL. Early Intervention Project: Can its claims be substantiated and its effects replicated. J Autism Dev Disord. 1998;28(1):5-13.
19. Hayes Medical Technology Directory. Sensory Integration Therapy for Children with Learning Disabilities Winifred S. Hayes, Lansdale P.A. January, 2000.
20. Hender K. Effectiveness of sensory integration therapy for attention deficit hyperactivity disorder (ADHD). Evidence Centre Critical Appraisal. Series 2001: Intervention. Clayton, Victoria, Australia: Centre for Clinical Effectiveness, Monash Medical Centre; March 21, 2001. Available at: http://www.med.monash.edu.au/healthservices/cce/evidence/pdf/b/597.pdf.
21. Hoehn TP, Baumeister AA. A critique of the application of sensory integration therapy to children with learning disabilities. J Learning Disabilities. 1994;27(6):338-350.
22. Humphries T, et al. A comparison of the effectiveness of sensory integrative therapy and perceptual-motor training in treating children with learning disabilities. J Dev Behav Pediatr. 1992;13(1):31-40.
23. Kaplan BJ, et al. Reexamination of sensory integration treatment: A combination of two efficacy studies. J Learning Disabilities. 1993;26(5):342-347.

24. Leemrijse C, Meijer OG, Vermeer A, Ader HJ, Diemel S. The efficacy of Le Bon Depart and Sensory Integration treatment for children with developmental coordination disorder: a randomized study with six single cases. Clin Rehabil. 2000 Jun;14(3):247-59.
25. Manitoba Speech and Hearing Association (MSHA). Auditory integration training. Position Statement. Manitoba, Canada: MSHA: adopted October 16, 1996.
26. Miller LT, Polatajko HJ, Missiuna C, et al. A pilot trial of a cognitive treatment for children with developmental coordination disorder. Hum Mov Sci. 2001;20(1-2):183-210.
27. Miller M, Lucker J. Auditory integration training. Am J Audiology 1997; 6(2).
28. Mosert MP. Facilitated communication since 1995: a review of published studies. J Autism Dev Disord. 2001; 31(3):287-313.
29. Mudford OC, Cross BA, Breen S, et al. Auditory integration training for children with autism: No behavioural benefits detected. Am J Mental Retard. 2000;105:118-129.
30. National Academy of Sciences (NAS), National Research Council, Division of Behavioral and Social Sciences and Education, Committee on Educational Interventions for Children with Autism. Educating Children with Autism. C Lord, JP McGee, eds. Washington, DC: National Academies Press; 2001.
31. National Initiative for Autism: Screening and Assessment. National autism plan for children (NAPC). London, UK: National Autistic Society; March 2003. Available at: http://www.doh.gov.uk/nsf/children/nationalautisticfrsec.pdf. Accessed October 15, 2003.
32. No authors listed. Auditory integration training. American Speech-Language-Hearing Association, ASHA. 1994;36(11):55-58.
33. No authors listed. Statement--sensory integration evaluation and intervention in school-based occupational therapy. Am J Occup Ther. 1997;51(10):861-863.
34. Resolution on Facilitated Communication by the American Psychological Association. Adopted in Council, August 14, 1994, Los Angeles, CA. http://soeweb.syr.edu/thefci/apafc.htm.
35. Schaaf RC, Miller LJ. Occupational therapy using a sensory integrative approach for children with developmental disabilities. Ment Retard Dev Disabil Res Rev. 2005;11(2):143-148.
36. Sinha Y, Silove N, Wheeler D, Williams K. Auditory integration training and other sound therapies for autism spectrum disorders. Cochrane Database Syst Rev. 2004;(1):CD003681.
37. Tharpe AM. Concerns regarding auditory integration training. Curr Opin Otolaryngol Head Neck Surgery. 1996; 4:353-355.
38. Tickle-Degnen L. Perspectives on the status of sensory integration theory. Am J Occup Ther. 1988;42(7):427-433.
39. Tochel C. Sensory or auditory integration therapy for children with autistic spectrum disorders. Bazian Ltd., eds. London, UK: Wessex Institute for Health Research and Development, University of Southampton; 2003.
40. Vargas S, Camilli G. A meta-analysis of research on sensory integration treatment. Am J Occup Ther. 1999;53(2):189-198.
41. Yencer KA. The effects of auditory integration training for children with central auditory processing disorders. Am J Audiology. 1998; Vol. 7.