Sensory Integration Therapy and Auditory Integration Therapy

Policy # 00174
Original Effective Date: 08/24/2005
Current Effective Date: 11/09/2020

Applies to all products administered or underwritten by Blue Cross and Blue Shield of Louisiana and its subsidiary, HMO Louisiana, Inc.(collectively referred to as the "Company"), unless otherwise provided in the applicable contract. Medical technology is constantly evolving, and we reserve the right to review and update Medical Policy periodically.

Services Are Considered Investigational

Coverage is not available for investigational medical treatments or procedures, drugs, devices or biological products.

Based on review of available data, the Company considers sensory integration (SI) therapy and auditory integration therapy to be **investigational.***

Background/Overview

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.

Auditory integration therapy (also known as auditory integration training, auditory enhancement training, audio-psycho-phonology) involves having individuals listen to music modified to remove frequencies to which they are hypersensitive, with the goal of gradually increasing exposure to sensitive frequencies. Although several methods of auditory integration therapy have been developed, the most widely described is the Berard 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 therapy has been proposed for individuals with a range of developmental and behavioral disorders, including learning disabilities, autism spectrum disorder, pervasive developmental disorder, and attention-deficit/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.

FDA or Other Governmental Regulatory Approval

U.S. Food and Drug Administration (FDA)

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

Rationale/Source

Sensory integration therapy has been proposed as a treatment of developmental disorders in patients 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.

For individuals who have developmental disorders who receive sensory integration therapy, the evidence includes randomized controlled trials (RCTs), systematic reviews of these trials, and case series. Relevant outcomes are functional outcomes and quality of life. Due to the individualized approach to sensory integration therapy and the large variations in patients' disorders, large multicenter RCTs are needed to evaluate the efficacy of this intervention. The most direct evidence on sensory integration therapy outcomes derives from several randomized trials. Although some of these trials demonstrated improvements for subsets of outcomes measured, they had small sample sizes, heterogeneous patient populations, and variable outcome measures. The evidence is insufficient to determine the effects of the technology on health outcomes.

For individuals who have developmental disorders who receive auditory integration therapy, the evidence includes several RCTs and systematic reviews of these trials. Relevant outcomes are functional outcomes and quality of life. For auditory integration therapy, the largest body of literature relates to its use in autism spectrum disorder. Several systematic reviews of auditory integration therapy in the treatment of autism have found limited evidence to support its use. No comparative studies identified evaluated use of auditory integration therapy for other conditions. The evidence is insufficient to determine the effects of the technology on health outcomes.

Supplemental Information

Practice Guidelines and Position Statements

Sensory Integration Therapy

American Academy of Pediatrics
A 2012 policy statement by the American Academy of Pediatrics on sensory integration therapy for children with developmental and behavioral disorders stated that "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 American Academy of Pediatrics indicated that these limitations should be discussed with parents, along with instructions on how to evaluate the effectiveness of a trial period of sensory integration therapy.

American Occupational Therapy Association
The 2015 American Occupational Therapy Association (AOTA) guidelines stated: "American Occupational Therapy Association (AOTA) recognizes 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 "enhanc[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 sensory integration approach is appropriate."

In 2011, the AOTA published evidence-based occupational therapy practice guidelines for children and adolescents with challenges in sensory processing and sensory integration. The 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 harm 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 recommend sensory integration therapy for academic and psychoeducational performance (eg, math, reading, written performance).

U.S. Preventive Services Task Force Recommendations
Not applicable.

Medicare National Coverage
There is no national coverage determination. In the absence of a national coverage determination, coverage decisions are left to the discretion of local Medicare carriers.

Ongoing and Unpublished Clinical Trials
Some currently unpublished trials that might influence this review are listed in Table 1.

Table 1. Summary of Key Trials

NCT No.	Trial Name	Planned Enrollment	Completion Date
Ongoing			
NCT02536365	Sensory Integration Therapy in Autism: Mechanisms and Effectiveness	180	Oct 2021
ISRCTN14716440	A Trial of Sensory Integration Therapy Versus Usual Care for Sensory Processing Difficulties in Autism Spectrum Disorder in Children	138	Sept 2020

NCT: national clinical trial.
ISRCTN: Standard Randomised Controlled Trial Number

References

1. Blue Cross-and Blue Shield Association, Medical Policy Reference Manual, "Sensory Integration Therapy", Policy 8.03.13, April 2020.
2. Sinha Y, Silove N, Hayen A, et al. Auditory integration training and other sound therapies for autism spectrum disorders (ASD). Cochrane Database Syst Rev. Dec 7 2011(12):CD003681. PMID 22161380

3. Blue Cross and Blue Shield Association Technology Evaluation Center (TEC). Sensory integration therapy. TEC Assessment. 1999;Volume 14:Tab 22.
4. Schaaf RC, Burke JP, Cohn E, et al. State of measurement in occupational therapy using sensory integration. Am J Occup Ther. Sep-Oct 2014;68(5):e149-153. PMID 25184475
5. Mailloux Z, May-Benson TA, Summers CA, et al. Goal attainment scaling as a measure of meaningful outcomes for children with sensory integration disorders. Am J Occup Ther. Mar-Apr 2007;61(2):254-259. PMID 17436848
6. Parham LD, Cohn ES, Spitzer S, et al. Fidelity in sensory integration intervention research. Am J Occup Ther. Mar-Apr 2007;61(2):216-227. PMID 17436844
7. Case-Smith J, Weaver LL, Fristad MA. A systematic review of sensory processing interventions for children with autism spectrum disorders. Autism. Feb 2015;19(2):133-148. PMID 24477447
8. Brondino N, Fusar-Poli L, Rocchetti M, et al. Complementary and alternative therapies for autism spectrum disorder. Evid Based Complement Alternat Med. Jun 2015;2015:258589. PMID 26064157
9. Watling R, Hauer S. Effectiveness of Ayres Sensory Integration(R) and sensory-based interventions for people with autism spectrum disorder: a systematic review. Am J Occup Ther. Sep-Oct 2015;69(5):6905180030:1-12. PMID 26356655
10. Case-Smith J, Arbesman M. Evidence-based review of interventions for autism used in or of relevance to occupational therapy. Am J Occup Ther. Jul-Aug 2008;62(4):416-429. PMID 18712004
11. May-Benson TA, Koomar JA. Systematic review of the research evidence examining the effectiveness of interventions using a sensory integrative approach for children. Am J Occup Ther. May-Jun 2010;64(3):403-414. PMID 20608272
12. Schaaf RC, Benevides T, Mailloux Z, et al. An intervention for sensory difficulties in children with autism: a randomized trial. J Autism Dev Disord. Jul 2014;44(7):1493-1506. PMID 24214165
13. Pfeiffer BA, Koenig K, Kinnealey M, et al. Effectiveness of sensory integration interventions in children with autism spectrum disorders: a pilot study. Am J Occup Ther. Jan-Feb 2011;65(1):76-85. PMID 21309374
14. Miller LJ, Coll JR, Schoen SA. A randomized controlled pilot study of the effectiveness of occupational therapy for children with sensory modulation disorder. Am J Occup Ther. Mar-Apr 2007;61(2):228-238. PMID 17436845
15. Uyanik M, Bumin G, Kayihan H. Comparison of different therapy approaches in children with Down syndrome. Pediatr Int. Feb 2003;45(1):68-73. PMID 12654073

16. Parr J. Autism. BMJ Clin Evid. Jan 7 2010;2010. PMID 21729335
17. Rossignol DA. Novel and emerging treatments for autism spectrum disorders: a systematic review. Ann Clin Psychiatry. Oct-Dec 2009;21(4):213-236. PMID 19917212
18. Zimmer M, Desch L. Sensory integration therapies for children with developmental and behavioral disorders. Pediatrics. Jun 2012;129(6):1186-1189. PMID 22641765
19. Occupational Therapy for Children and Youth Using Sensory Integration Theory and Methods in School-Based Practice. Am J Occup Ther. 2015 Nov;69 Suppl 3:6913410040p1-6913410040p20. PMID 26713950
20. Watling R, Koenig KP, Davies PL, et al. Occupational therapy practice guidelines for children and adolescents with challenges in sensory processing and sensory integration. Bethesda, MD: American Occupational Therapy Association Press; 2011.

Policy History

Original Effective Date: 08/24/2005
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08/03/2005	Medical Director review
08/16/2005	Medical Policy Committee review
08/24/2005	Managed Care Advisory Council approval
09/05/2007	Medical Director review
09/19/2007	Medical Policy Committee approval. Addition of FDA and or other governmental regulatory approval. Policy statement unchanged.
09/03/2009	Medical Policy Committee review
09/16/2009	Medical Policy Implementation committee approval. Coverage eligibility unchanged.
09/09/2010	Medical Policy Committee review
09/15/2010	Medical Policy Implementation Committee approval. Coverage eligibility unchanged.
09/01/2011	Medical Policy Committee review
09/14/2011	Medical Policy Implementation Committee approval. Coverage eligibility unchanged.
10/11/2012	Medical Policy Committee review
10/31/2012	Medical Policy Implementation Committee approval. Coverage eligibility unchanged.

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10/03/2013	Medical Policy Committee review
10/16/2013	Medical Policy Implementation Committee approval. Coverage eligibility unchanged.
10/02/2014	Medical Policy Committee review
10/15/2014	Medical Policy Implementation Committee approval. Coverage eligibility unchanged.
10/08/2015	Medical Policy Committee review
10/21/2015	Medical Policy Implementation Committee approval. Auditory interration therapy added as investigational and added to the title.
10/06/2016	Medical Policy Committee review
10/19/2016	Medical Policy Implementation Committee approval. No change to coverage.
01/01/2017	Coding update: Removing ICD-9 Diagnosis Codes
10/05/2017	Medical Policy Committee review
10/18/2017	Medical Policy Implementation Committee approval. No change to coverage.
10/04/2018	Medical Policy Committee review
10/17/2018	Medical Policy Implementation Committee approval. No change to coverage
10/03/2019	Medical Policy Committee review
10/09/2019	Medical Policy Implementation Committee approval. Coverage eligibility unchanged.
10/01/2020	Medical Policy Committee review
10/07/2020	Medical Policy Implementation Committee approval. Coverage eligibility unchanged.

Next Scheduled Review Date: 10/2021

Coding

The five character codes included in the Blue Cross Blue Shield of Louisiana Medical Policy Coverage Guidelines are obtained from Current Procedural Terminology (CPT®)‡, copyright 2019 by the American Medical Association (AMA). CPT is developed by the AMA as a listing of descriptive terms and five character identifying codes and modifiers for reporting medical services and procedures performed by physician.

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CPT is a registered trademark of the American Medical Association.

Codes used to identify services associated with this policy may include (but may not be limited to) the following:

Code Type	Code
CPT	97533
HCPCS	No codes
ICD-10 Diagnosis	F78-F79, F80.0-F80.9, F81.0-F81.9, F82, F84, F88, F89, H93.25, R48.0

*Investigational – A medical treatment, procedure, drug, device, or biological product is Investigational if the effectiveness has not been clearly tested and it has not been incorporated into standard medical practice. Any determination we make that a medical treatment, procedure, drug, device, or biological product is Investigational will be based on a consideration of the following:

A. Whether the medical treatment, procedure, drug, device, or biological product can be lawfully marketed without approval of the U.S. Food and Drug Administration (FDA) and whether such approval has been granted at the time the medical treatment, procedure, drug, device, or biological product is sought to be furnished; or
B. Whether the medical treatment, procedure, drug, device, or biological product requires further studies or clinical trials to determine its maximum tolerated dose, toxicity, safety, effectiveness, or effectiveness as compared with the standard means of treatment or diagnosis, must improve health outcomes, according to the consensus of opinion among experts as shown by reliable evidence, including:

1. Consultation with the Blue Cross and Blue Shield Association technology assessment program (TEC) or other nonaffiliated technology evaluation center(s);
2. Credible scientific evidence published in peer-reviewed medical literature generally recognized by the relevant medical community; or
3. Reference to federal regulations.

‡ Indicated trademarks are the registered trademarks of their respective owners.

NOTICE: If the Patient's health insurance contract contains language that differs from the BCBSLA Medical Policy definition noted above, the definition in the health insurance contract will be relied upon for specific coverage determinations.

NOTICE: Medical Policies are scientific based opinions, provided solely for coverage and informational purposes. Medical Policies should not be construed to suggest that the Company recommends, advocates, requires, encourages, or discourages any particular treatment, procedure, or service, or any particular course of treatment, procedure, or service.