

Sensory Integration Therapy (SIT) for Autism Spectrum Disorder (ASD) Medical Coverage Policy

UTILIZATION * ALERT*

- Prior to use of this MCP for evaluation of medical necessity, benefit coverage MUST be verified in the member's EOC or benefit document.
- Medicare does not currently have a National Coverage Determination (NCD) for Sensory Integration
 Disorder.
- Local Coverage Determinations (LCDs)/Local Coverage Articles (LCAs) currently do not exist.
- Note: After searching the Medicare Coverage Database, if no NCD/LCD/LCA is found, then use the policy referenced above for coverage guidelines

I. Procedure: Sensory Integration Therapy (SIT) or Ayres Sensory Integration Therapy (ASI)

II. Scope

- A. The scope of this policy is limited to children who have ASD with functional and behavioral challenges in processing and integrating sensory information.
- B. Interventions for adults with autism, mental retardation or learning disabilities are not addressed in this policy.
- C. This policy is not applicable to treatments for acquired sensory problems resulting from illness, head trauma, or acute neurologic events including cerebrovascular accidents.

III. Clinical Indications for Referral

Sensory integration therapy is considered medically necessary if **all** the following requirements are met:

A. Patient criteria

- 1. The child has been diagnosed with Autism Spectrum Disorder (ASD); and
- 2. Age range is between 4–12 years old; and
- The child has an established sensory processing deficit or difficulties on any of the following:
 - a. Difficulties in volition, or lack of motivation with activities to perform:
 - b. Problems in habituation such as inappropriate and/or non-functional habits;
 - c. Difficulties in communication and social interaction/performance;
 - d. Functional and processing deficiencies especially in the domain of cognitive flexibility, planning, and working memory;
 - e. Deficits in sensory processing-related adaptive behavior and functioning; or
 - f. Difficulties in motor processing and daily life activities; and



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4. Willingness of the child's family or caregiver to engage in sensory intervention.

B. Therapist qualifications

A qualified therapist should possess the following qualifications to ensure that the child benefits from sensory integrated intervention and to avoid adverse effects from the treatment:

- 1. The intervention should be provided by an experienced practitioner who is certified in child occupational therapy and sensory integration; and
- 2. The therapist should have adequate knowledge base, special training, competencies, and mentorship in the principles of ASI theory, application of sensory integration assessment tools and techniques, unique to sensory integration theory including the following:
 - a. Provision of proper therapeutic environment, planning space, timing, and rhythm of the SIT sessions, appropriate equipment and environmental modifications.
 - **b.** Has the understanding and appreciation for consultation, inclusion, parental or carer's engagement with intervention and education of the child's family and other significant individuals; **and**
- 3. Prior to initiation of sensory intervention, the therapist should have the competence and ability to do all of the following:
 - a. Administer and interpret the Sensory Integration Assessment and Praxis Tests.
 - Complete the child's baseline sensory assessment, identify the sensory characteristics including typical and atypical behaviors that makes the child a suitable candidate for SIT; and
 - Select the appropriate sensory-based intervention(s) based on the result of sensory
 assessments and use of Sensory Integration Fidelity Measure, on the most appropriate
 active ingredients or essential elements of SIT for the child, consistent with ASI intervention
 principles; and
 - Individualize intervention goals based on each child's individual sensory processing deficits
 and needs including identification of areas that are important to the parents and sensory
 strategies that parents could implement at home; and
 - d. Regularly monitor and evaluate the child's response to the intervention and appropriately adjust the treatment plan based on patient outcomes.

IV. Exclusions

A. Sensory integration therapy is considered experimental and investigational for the management of acquired sensory disorders and for all other indications except those cited in section III as current evidence is insufficient and unproven to establish its' effectiveness.



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- B. The following SIT techniques are considered not medically necessary for children with ASD as evidence does not support its' effectiveness
 - 1. Weighted vests;
 - 2. Slow linear swinging; and
 - 3. Regularly incorporating specific sensory techniques such as sensory enrichment into classroom routines for preschoolers with ASD

V. Description

Sensory Integration Therapy (SIT) also known as Ayres Sensory Integration [ASI] was a therapy developed in the 1970s by A. Jean Ayres, PhD, an occupational therapist, based on the principles of Ayres Sensory Integration (ASI), which establish this basic framework of conceptualizing sensory processing deficits in children with range of symptoms and disabilities that include autism spectrum disorder, attention deficit hyperactivity disorder, and fragile-x syndrome.

For a child with a sensory processing dysfunction, the goal of SIT is to increase their ability to process and integrate sensory information by improving the way the brain processes and adapts to sensory information through registration, modulation, and motivation.

The objective of sensory integration therapy is not to teach specific skills or behaviors nor involve tutoring but rather remediate deficits in neurologic processing by improving perception and integration of sensory information and thereby help the child with learning disabilities improve their sensorimotor skills. It is believed that the therapy can help the child organize their sensory system stimulation by providing vestibular, proprioceptive, and tactile sensory input and allowing them to actively interact with the environment more adaptively through activities.

The therapy is provided by a specially trained occupational therapists, consistent with the principles of Ayres sensory integration (ASI) and involves activities, believed to organize the sensory system by providing vestibular, proprioceptive, and tactile sensory input.

A. Objectives of Treatment

The goal of therapy is to remediate deficits in neurologic processing by which the brain organizes and interprets external stimuli such as touch, movement, body awareness, sight, sound, and gravity. It is believed that the integration of sensory information through active participation in activities allows the child to interact with the environment more adaptively.

B. Focus of intervention

The therapy focuses on participation-oriented outcomes, collected at regular intervals throughout the duration of the intervention program, to evaluate the child's response to the therapy and adjust the plan as needed.



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C. Therapy sessions

SIT is a collaborative interaction between the therapist and the child within play's context that emphasizes active child involvement. ASI® is performed within a clinic setting through a series of increasingly intensive one-on-one sessions, individualized to the child where the primitive forms of sensation are combined with motor activities according to a manualized protocol. The child participates in individualized activities that aim to improve deficits within the individual's sensory integration functioning.

D. Therapy techniques

The therapist provides vestibular, proprioceptive, and tactile stimulation during play activities and sensory-enhanced interactions, designed to elicit appropriate adaptive motor responses. Activities may include textured mitts, carpets, scooter boards, ramps, swings, trampolines, slides, bounce pads, suspended equipment, swing balls, to encourage a non-cognitive, creative, and explorative process. SIT also uses other techniques to achieve tactile stimulation by deep pressure such as Qigong massage with Qigong Sensory Treatment (QST), brushing parts of the child's body, swinging in a hammock, the use of weighted vests, blankets, and other clothing.

E. Duration

Therapy is provided as individual therapy sessions typically between 60 - 90 minutes, one to three times a week, for several months or years.

VI. Definition

Volition refers to the motivation for an activity or occupation and indicates the process of making choices.

Habituations are common functional activities, performed under different physical, cultural, and time conditions like those that involve routines, habits, and roles.

Performance capacity implies physical and mental abilities that underlie a skilled occupational performance.

Processing skills refers to planning activities, utilizing correct tools and materials, and adapting to problems.

Motor skills implies movement by the individual or movement of an object to perform a certain activity.



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References

- Randell E, Wright M, Milosevic S, et al. Sensory integration therapy for children with autism and sensory processing difficulties: the SenITA RCT. Southampton (UK): National Institute for Health and Care Research; 2022 Jun. (Health Technology Assessment, No. 26.29.) Chapter 1, Introduction. Available from: https://www.ncbi.nlm.nih.gov/books/NBK581602/
- 2. American Occupational Therapy Association. Occupational Therapy for Children and Youth Using Sensory Integration Theory and Methods in School-Based Practice. (2015). *The American journal of occupational therapy: official publication of the American Occupational Therapy Association*, 69 Suppl 3, 6913410040p1–6913410040p20. https://doi.org/10.5014/ajot.2015.696S04
- 3. Schaaf, R. C., Benevides, T., Mailloux, Z., Faller, P., Hunt, J., van Hooydonk, E., Freeman, R., Leiby, B., Sendecki, J., & Kelly, D. (2014). An intervention for sensory difficulties in children with autism: a randomized trial. *Journal of autism and developmental disorders*, *44*(7), 1493–1506. https://doi.org/10.1007/s10803-013-1983-8
- Schoen, S. A., Lane, S. J., Mailloux, Z., May-Benson, T., Parham, L. D., Smith Roley, S., & Schaaf, R. C. (2019). A systematic review of ayres sensory integration intervention for children with autism. *Autism research: official journal of the International Society for Autism Research*, 12(1), 6–19. https://doi.org/10.1002/aur.2046
- 5. Case-Smith, J., Weaver, L. L., & Fristad, M. A. (2015). A systematic review of sensory processing interventions for children with autism spectrum disorders. *Autism: the international journal of research and practice*, 19(2), 133–148. https://doi.org/10.1177/1362361313517762
- Camarata, S., Miller, L. J., & Wallace, M. T. (2020). Evaluating Sensory Integration/Sensory Processing Treatment: Issues and Analysis. *Frontiers in integrative neuroscience*, 14, 556660. https://doi.org/10.3389/fnint.2020.556660
- Section On Complementary and Integrative Medicine, Council on Children with Disabilities, American Academy of Pediatrics, Zimmer, M., & Desch, L. (2012). Sensory integration therapies for children with developmental and behavioral disorders. *Pediatrics*, 129(6), 1186–1189. https://doi.org/10.1542/peds.2012-0876
- 8. Randell, E., McNamara, R., Delport, S., Busse, M., Hastings, R. P., Gillespie, D., Williams-Thomas, R., Brookes-Howell, L., Romeo, R., Boadu, J., Ahuja, A. S., McKigney, A. M., Knapp, M., Smith, K., Thornton, J., & Warren, G. (2019). Sensory integration therapy versus usual care for sensory processing difficulties in autism spectrum disorder in children: study protocol for a pragmatic randomized controlled trial. *Trials*, 20(1), 113. https://doi.org/10.1186/s13063-019-3205-y
- 9. Warutkar, V. B., & Krishna Kovela, R. (2022). Review of Sensory Integration Therapy for Children with Cerebral Palsy. *Cureus*, *14*(10), e30714. https://doi.org/10.7759/cureus.30714
- Kilroy, E., Aziz-Zadeh, L., & Cermak, S. (2019). Ayres Theories of Autism and Sensory Integration Revisited: What Contemporary Neuroscience Has to Say. *Brain sciences*, 9(3), 68. https://doi.org/10.3390/brainsci9030068
- 11. Kaiser Permanente Medical Technology Assessment Committee (MTAC). Sensory Integration Therapy (SIT) for Children with Autism Spectrum Disorders (ASD) or Other Developmental and Behavioral Disorders. Date of review: 04/11/2022. Kaiser Permanente Washington. https://cl.kp.org/natl/cpg/intc/specialty.html



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- Clinical Trials.gov. Amira Mahmoud Abd-elmonem, Cairo University. Clinical Trial: Therapeutic Outcomes of Sensory Integration Versus Fine Motor Intervention in Children with Autism. NCT04696133. March 15, 2020 – May 15, 2022. Accessed: 06/29/2023. https://classic.clinicaltrials.gov/ct2/show/study/NCT04696133
- 13. Clinical Trials.gov. Sophie Molholm, Albert Einstein College of Medicine. Clinical Trial: Sensory Integration Therapy in Autism: Mechanisms and Effectiveness. NCT02536365 . Sept 2015 December 2023. Accessed: 06/29/2023. https://classic.clinicaltrials.gov/ct2/show/NCT02536365
- 14. Kashefimehr, B., Kayihan, H., & Huri, M. (2018). The Effect of Sensory Integration Therapy on Occupational Performance in Children with Autism. *OTJR: occupation, participation and health*, *38*(2), 75–83. https://doi.org/10.1177/1539449217743456
- L. Diane Parham et al. Development of a Fidelity Measure for Research on the Effectiveness of the Ayres Sensory Integration Intervention. *The American Journal of Occupational Therapy* March/April 2011, Volume 65, Number 2 pages 133 – 142.
 - https://www.researchgate.net/publication/51035485_Development_of_a_Fidelity_Measure_for_Research_on_the_Effectiveness_of_the_Ayres_Sensory_Integration_R_Intervention_

Approval History

Effective June 01, 2016, state filing is no longer required per Maryland House Bill HB 798 - Health Insurance - Reporting

| Date approved by RUMC | Date of Implementation |
|-----------------------|------------------------|
| 12/21/2023 | 12/21/2023 |

^{*}The Regional Utilization Management Committee received delegated authority in 2011 to review and approve designated Utilization Management and Medical Coverage Policies by the Regional Quality Improvement Committee.

Note: Kaiser Permanente Mid-Atlantic States (KPMAS) include referral and authorization criteria to support primary care and specialty care practitioners, as appropriate, in caring for members with selected conditions. Medical Coverage Policies are not intended or designed as a substitute for the reasonable exercise of independent clinical judgment by a practitioner in any particular set of circumstances for an individual member.

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