



# Research Brief

*A summary of a published research article*

## Efficacy of Sensory and Motor Interventions for Children with Autism

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This article reviewed the sensory and motor difficulties often displayed by children with autism and examines the various sensory and motor interventions used with this population. Children with autism tend to have a high prevalence of unusual sensory features. These features often include two categories: 1) hypo-responsiveness such as a lack of response, a delayed response, or a sensory seeking behavior, or 2) hyper-responsiveness such as an overly sensitive reaction or an adverse reaction, to various tactile (touch), vestibular (movement), auditory (sound), visual (sight), olfactory (smell) or gustatory (taste) stimuli. A smaller percentage of children with autism also show delayed motor development, low muscle tone (may appear floppy or loosely jointed), oral-motor problems, and general dyspraxia (problems planning and sequencing motor movements of the body or hands for functional tasks).

There are many approaches that have been used with children with autism to improve these sensory and motor difficulties. The validity of these studies is reviewed comprehensively in this paper. One example is sensory integration (SI) therapy. SI therapy is often provided in a clinic setting with specialized equipment. SI therapy aims to improve sensory processing or sensory modulation through playful, child-directed activities such as swinging or obstacle courses. It aims to teach children how to self-regulate their body's sensory needs during the course of every day activities. Outcomes of treatment are purported to improve attention and behavioral control, academic skills, and social interactions to name a few.

*SOME RESEARCH HAS BEEN CONDUCTED ON THESE SENSORY AND MOTOR INTERVENTIONS, BUT OVERALL, STRONG EFFICACY RESEARCH IS LACKING.*

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Another version of SI therapy is known as the "sensory diet." It involves providing a schedule of activities designed to meet the child's sensory needs (e.g., brushing the skin with a soft brush, joint compressions). This type of therapy can be integrated into the course of daily activities and does not require a special clinic. Sensory stimulation techniques are another approach that has been used. Examples of these include touch pressure activities (e.g., deep pressure massage, joint compression, weighted vests). Another intervention approach is Auditory Integration Training (AIT). It is based on the idea that electronically filtered music heard through earphones may aid in decreasing hypersensitivities to sound. The theory is that listening to these sounds massages and relaxes the middle ear muscles in order to enhance hearing/listening. Visual therapies have also been used with children with autism to improve their visual tracking and perceptual abilities. Strategies such as eye exercises, colored filters, and prism lenses are some examples. These visual therapies and corrective lenses must be prescribed individually through a licensed optometrist.

Some research has been conducted on these sensory and motor interventions, but overall, strong efficacy research is lacking. Sensory integration therapy, sensory stimulation approaches, AIT, and prism lenses have shown mixed effects on children with autism (helping some children while not helping others). Often, these treatments have shown some benefits relative to "no treatment" comparisons, but do not show measurable benefits over alternative treatments. Much more research is needed on all these specific remedial treatments, as well as on alternative compensatory teaching or coping strategies. Parents may seek the advice of their child's teachers, therapists, and physicians to make specific individualized recommendations for their child. Detailed critiques of each type of intervention are provided in the article, as are general recommendations for professionals and families.



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