

Occupational Therapy, Sensory Integration and Autism

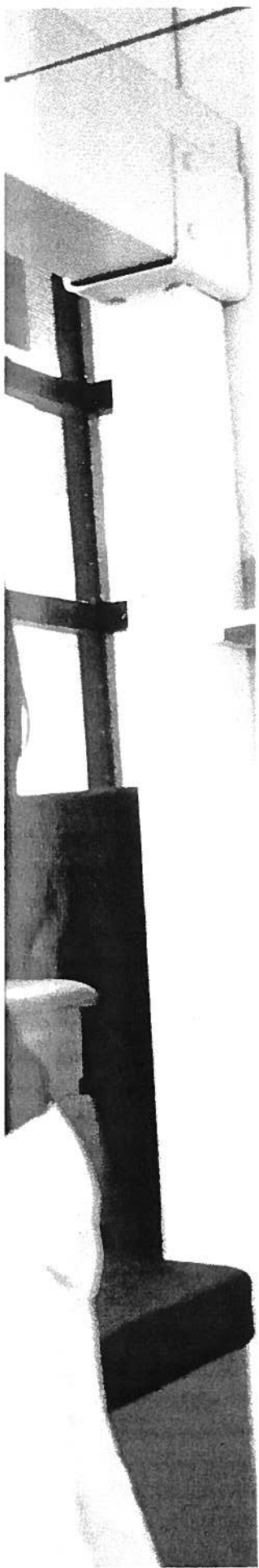
By Zoe Mailloux, MA, OTR, FAOTA
Occupational Therapist
at the Children's Hospital of Philadelphia



By Zoe Mailloux, MA, OTR, FAOTA



Paltraz, OTR/OTR/L helps Alex use the glider



lthough occupational therapy is a profession that has been in existence for nearly a century, it is still not always well known or understood. The American Occupational Therapy Association uses the slogan, "Skills for the Job of Living," to help convey the broad scope of this health-related discipline. The term "occupation" applies to functions, activities, routines, habits and skills that are important for an individual to have meaningful and successful participation in daily life. For children, necessary and important occupations usually include being able to play, learning and participating at school, developing independence in self-care abilities and emerging interaction in civic and community functions (such as church, volunteer and neighborhood activities.)

Occupational therapists use individually selected therapeutic activities, environmental modifications and collaborative planning with the family and other members of intervention teams to help maximize function and success. While occupational therapists have historically worked mostly with individuals who are living with disabilities, they are also involved in projects that are concerned with positive and productive development and function of all people.

Autism is an example of a disability that can significantly disrupt the occupations of childhood. Common characteristics of autism including difficulty with initiating and planning actions, unusual responses to sensory experiences and struggles with social situations are areas that occupational therapists commonly address by helping children to develop the foundation capabilities needed to be more at ease and successful in these areas. As the incidence of autism has increased, more occupational therapists have become involved in helping children with autism and their families to participate more successfully at home, in school and in their communities.

Many families who live with autism are familiar with the term "sensory integration." This term applies both to functions that occur within the nervous system, as well as to a therapeutic framework, first developed by

an occupational therapist and psychologist named A. Jean Ayres. In the 1950s, Dr. Ayres began working with children and adults diagnosed with neurological disorders. As she continued to study brain function, she began formulating theories about how problems in sensory perception affect the development and effectiveness of skills. Her work, known as sensory integration theory, has continued to develop over many decades and includes many theoretical principles, evaluation tools and intervention strategies. Specially trained occupational therapists are the primary professionals who study and use this therapeutic approach, but other professionals, such as physical therapists, speech and language pathologists, teachers, psychologists and doctors are also showing increased interest in sensory integration theory in their practices. Parents should note, however, that sensory integration is a framework applied within a recognized educational or health related profession and is not a separate kind of therapy or discipline. Therefore, while it is appropriate to seek more information about sensory integration function or concerns, there are no "sensory integration therapists," nor is there a separate "sensory integration therapy." Rather, it is relevant to find out what kind of specialized training an occupational therapist or other professional has in the area of sensory integration.

Sensory integration dysfunction involves difficulty in processing or organizing the flow of sensory information from the world around us. When sensory information is confusing, overwhelming or distorted, we are likely to have difficulty paying attention, learning, planning, and doing things in a skilled fashion. When sensory integration develops and works well, we are not usually aware of it. Therefore, difficulties in processing sensory information efficiently and accurately are not easily understood nor recognized. Sensory integration dysfunction can be considered a hidden problem, because it is not as noticeable as physical impairments or speech delays. The child with sensory integrative deficits may be easily frustrated

by the difficulties encountered when doing seemingly simple tasks or when interacting with another person. Extra understanding and support is often needed for the child to attempt even routine activities that most children perform easily.

Children with autism frequently demonstrate sensory integrative disorders that

Sensory integration dysfunction can be considered a hidden problem, because it is not as noticeable as physical impairments or speech delays.

involve unusual responses to sensation, such as being irritated by sounds, textures, smells, tastes or motions that most children barely notice or even enjoy. Children with autism also commonly seek certain sensations that they find organizing or calming. Although every child is unique, common preferences include jumping, hanging, push/pull actions and deep or heavy pressure against the skin.

Unusual responses to sensation are often quite noticeable in children with autism because the child is so uncomfortable or disorganized that many daily routines are disrupted. Another common sensory integrative problem among children with autism is difficulty in ideation and motor planning. Although specific, learned motor skills can be quite good in children with autism, many children with this diagnosis struggle with coming up with ideas about what to do in novel situations and how to plan, sequence, imitate and organize plans of action. Occupational therapists are often specifically concerned with this area of function because it is easier to miss and sometimes is hidden if a child is in a highly structured program. Real life, however, is full of unpredictable twists and turns and knowing how to interpret a

situation and plan actions is an important aspect of independence and successful participation in life.

In an occupational therapy intervention program that applies a sensory integration approach, there will be an opportunity to individually determine the sensory perception, sensory responsiveness and motor planning functions for each child within the

professionals to understand the unique sensory functions of a child with autism is an important part of any intervention plan. The overall program will include ways to anticipate and avoid situations that are difficult, strategies for coping with and compensating for difficulties in these situations and, most importantly, enhancing abilities and functions to increase overall potential for



Anne Ngamsnga, MS, OTR/L helps Rintaro in the swing

broader concerns for meaningful social and occupational participation. Therapy is highly individualized and does not include rote protocols or set prescriptions. Each child is helped to make increasingly more complex and purposeful responses within a setting that recognizes the way his or her nervous system processes information, including sensation. Helping parents, teachers and other

successful participation in life.

The emphasis on the ability to manage and respond to novel situations sometimes sets the sensory integrative approach apart from traditional intensive behavioral programs. Since children with autism naturally have good rote memory skills, occupational therapists are concerned with enhancing the more challenging aspects of developing

memories and responses that have emotional and meaningful connotations and that will lead to purposeful and motivated interactions, at as early an age as possible. Other intervention approaches that are highly consistent with the sensory integration framework include the Floortime™ approach developed by Dr. Stanly Greenspan and the application of Social Stories™ developed by Carol Gray.

The following case example illustrates some of the ways occupational therapy, applying the sensory integration framework, might be included in overall intervention planning for a child with the diagnosis of autism:

*Leah was a beautiful baby, who was generally happy, but who did become irritated in confusing and sometimes unpredictable ways. She liked to be rocked, swung, and swaddled tightly, but she recoiled at having her face or hair washed, and pulled away from having textures such as sand or grass on her skin. Leah reacted in unusual ways to sound, sometimes seeming not to notice loud sounds and other times becoming very agitated by specific sounds in the environment, such as certain songs or noise from appliances.

As Leah reached her third birthday, her language was very limited and she was not playing with toys or other children in typical ways. Following an evaluation, she was diagnosed with autism. When Leah was enrolled in a specialized preschool program, she received an assessment by an occupational therapist. This evaluation revealed that Leah was overly sensitive to touch and sound, but that she craved movement and deep pressure to her muscles and joints; that she had good visual perception, but that she had difficulty perceiving the shape and feel of objects through her sense of touch; poor body position awareness and inadequate balance; and that she had a great deal of difficulty with imitating, sequencing, initiating and planning unfamiliar actions and motor skills. All of these sensory integrative concerns were affecting Leah's ability to

Occupational therapy is often an important aspect of intervention planning for children with autism. Understanding sensory integration function and dysfunction is a key aspect of these programs.

participate in the preschool classroom routines, to develop beginning independence in self-care tasks, and to engage in purposeful social play with her peers.

Leah's occupational therapy intervention included parent and teacher education and classroom modifications to alleviate sensory experiences that were especially irritating for her. Her individual occupational therapy sessions gradually introduced a variety of sensory experiences that she could actively control to reduce her heightened sensitivities. Access to movement and climbing activities throughout her day was also found to help her remain more organized and focused. Therapeutic activities that increased her touch (tactile), position sense (proprioception) and balance (vestibular sense) were introduced and helped Leah to develop more efficient fine and gross motor skills. An emphasis on coming up with new ways to climb and play on equipment, on planning and sequencing actions, and on sharing toys and play experiences with peers was an important aspect of her occupational therapy program as well.

Occupational therapy is often an important aspect of intervention planning for children with autism. Understanding sensory integration function and dysfunction is a key aspect of these programs. Early intervention is always preferred in order to capitalize on the promise of flexible and changing nervous systems. However, all individuals can be helped when their perceptions

of the world are more accurately understood and considered. **TAP**

**Leah (name has been changed)*

Material from Sensory Integration: Answers for Parents © 2004 by Pediatric Therapy Network. Adapted and used by permission of the publisher, Crestport Press, 5021 Gregory Court, Santa Rosa, CA 95409.

Not to be reprinted without permission. All rights reserved.

For more information on occupational therapy and sensory integration see:

Sensory Integration and the Child

www.wpspublish.com

Sensory Integration: Answers for Parents

www.crestport.com

Understanding Autism-Consumer Tip Sheet and Autism: A Comprehensive Occupational Therapy Approach, 2nd Edition

www.aota.org

Applying Sensory Integration Principles

Where Children Live, Learn and Play

www.pediatrictherapynetwork.org

Zoe Mailloux, MA, OTR, FACTA is the Director of Administration at Pediatric Therapy Network, a non profit children's therapy center, in Torrance, CA. She was Dr. Jean Ayres research assistant from 1978 to 1988. Ms. Mailloux has lectured and published extensively on sensory integration and autism.