

## What is Sensory Integration?

Sensory integration pertains to using our sensory systems to allow the brain to organize information and respond appropriately. The functions of the sensory systems include::

- Hearing
- Smell
- Touch (tactile)
- Proprioception (the ability to recognize your body's position in space without having to use vision)
- Vestibular (Coordinates movement of eyes, head and body; balance)
- Sight
- Taste

All of the information children receive from their environment comes to them through the sensory systems. Most people are familiar with the senses involved in taste, smell, sight and sound. The nervous system also senses touch, movement, the force of gravity and body position. Each of these systems is critical to a child's ability to function in any environment.

## What are Sensory Integration Disorders?

Persons with Sensory Integration Disorder have one or more of the sensory systems that do not function properly and/or work together with the other systems. Thus, they cannot interact successfully with the surrounding environment or other people.

## What is sensory defensiveness?

Sensory defensiveness is a sensory integrative disorder characterized by a "fright, flight, or fight" reaction to sensory information most people would consider harmless.

Tactile defensiveness, or hyper-responsiveness to touch, was identified in the 1960's. Since that time, researchers have recognized defensiveness in other sensory areas as well. The individual who has sensory defensiveness typically has a highly aroused nervous system that prepares the body for survival, but does not recognize that the input is non-threatening.

Tactile defensiveness (hypersensitivity to touch) can cause behaviors such as aggressiveness, avoidance, withdrawal and intolerance for daily routines. Combing or shampooing hair, cutting fingernails, or brushing teeth can be exhausting for families of children who react to these activities by acting out, crying, or throwing a tantrum. Some children may insist on certain textures of clothing, cutting out all tags and labels from clothing, or having extremely limited choices of food because of intolerance to textures. Children might also withdraw or react with aggression as a result of unexpected touch.

Auditory defensiveness involves negative responses or fears related to sounds and noises. Some children may exhibit extreme fear when exposed to everyday environmental sounds at a level that they cannot stay in control or become extremely distressed. For example, the sound of a school bell, vacuum cleaner, lawn mower or toilet flushing may be the trigger to setting up a fright, flight, and fight response. Sometimes these children have hypersensitive hearing; they hear sounds from far away just as if they are in the same room. For instance, a child might feel as if a train going by several blocks away is about to run over her.

Visual defensiveness can be exhibited as hypersensitivity to light, changes in light, avoidance of visually complex environment (pictures covering a wall), or being able to meet someone's gaze. This might be noticeable when the child is taken into an environment where the light is very bright, such as in a department store.

Oral-motor defensiveness (tactile defensiveness in the mouth) can cause distress with brushing teeth and during dentist visits, as well as intolerance to textures or temperatures of food.

Children with olfactory defensiveness (intolerance to odors) may gag or be distressed by certain smells that other people don't notice or don't mind. A child might not be able to stand to be in the car while a parent is getting gas, or

can't go into the school lunchroom because of the smells of the foods.

## Some common sensitivities and symptoms

Because sensory disorders are different in each child, this list serves only as a sample:

- ✓ **Motor planning** – difficulty going up and down stairs, falls out of chairs, walks into objects and people, difficulty using toys, problems learning to ride big wheels, tricycles or bikes, difficulty with potty training, strong preferences or aversions to playground equipment, difficulty doing puzzles, difficulty getting food into mouth, unable to use scissors as age appropriate, will often repeat the same pattern without changing or adapting their approach even when they are repeatedly unsuccessful
- ✓ **Clothing** – strong clothing preferences (maybe only wants to wear sweats), wants only short or long sleeves, sensitive to collars and can't tolerate tags in clothes, difficulty manipulating zippers, buttons, snaps or ties, is bothered by seams or waistbands in clothing, insists on wearing a coat and/or wanting a hood up in spite of warm temperature, insists on wearing a T-shirt even in cold weather
- ✓ **Food** – sensitive to temperature or texture, heightened awareness to flavor or lack of awareness to flavor, chews with mouth open, bites fingers and tongue while eating, dribbles or spills food and drink, dislikes or craves carbonated beverages
- ✓ **Self-care** – hates brushing teeth, dribbles toothpaste out of mouth, avoids having hair washed or combed, avoids having fingernails and toenails clipped, has problems dressing self, puts clothes on backwards or inappropriately (two legs in one pants leg), difficulty or refusal to put on socks and shoes, aversion to having nose and ears cleaned or feet touched

- ✓ **Muscle tone** – poor posture, strength and endurance, distorted sense of heaviness when carrying things, difficulty grasping and holding objects for any length of time
- ✓ **Temperature** – sensitive to air and object temperature, has specific and often extreme preferences for the temperature of bath water, beverages and food

The determination of Sensory Disorders may be difficult because it is a hidden disorder. A child may appear normal, or the symptoms might be confused with those of other learning disabilities. Another difficulty with determination is that the child's behaviors may not be extreme enough to attract attention. Parents may have the feeling that something isn't quite right, but can't put their finger on exactly what it is. Parents, physicians or teachers may not be familiar with the symptoms.

Parents who are concerned about their child should keep a notebook. They can record their observations, the behaviors that concern them (time, date, duration, description of the behavior, and what was happening just prior to the behavior), a diary of the contacts they make about their concerns (pediatrician, teacher, etc.) and the response they received to their questions.

### **Evaluation**

Parents who want their child evaluated for Sensory Disorders should make the request in writing to the local developmental preschool or school district. An occupational therapist who is trained in the treatment of Sensory Disorders, along with a speech pathologist and/or a physical therapist should be included on the evaluation team. The child should be evaluated in all areas of suspected disability.

If it is determined that the child has Sensory Disorders, the evaluation team will provide information and recommendations about the child's needs and suggest activities that can be followed by the school and parents to address those needs.

## **For more information about SENSORY DISORDERS**

**CONTACT:**



## **Parent Information Center**

500 W. Lott St, Suite A  
Buffalo, WY 82834  
1-800-660-9742 (WY only)  
(307) 684-2277 (v/tdd)  
(307) 684-5314 (fax)  
E-mail: [tdawson@wpic.org](mailto:tdawson@wpic.org)  
Website: [www.wpic.org](http://www.wpic.org)

To talk with the  
**PIC Outreach Parent Liaison**  
in your area, contact:

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*Disability Brochure #17*



## **Characteristics and Coping Strategies**

**Parent Information Center**  
1-307-684-2277

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