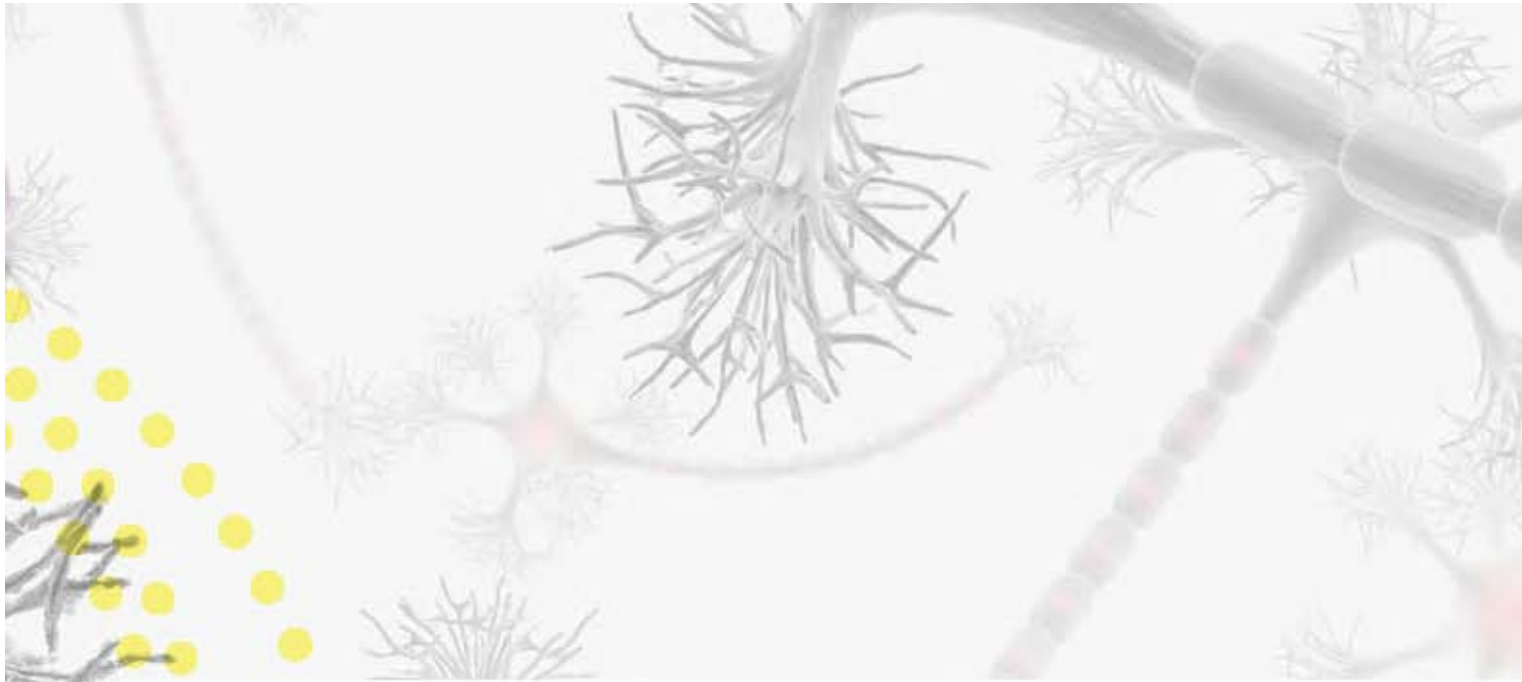


October is
National Sensory
Awareness Month

What is **Sensory
Processing
DISORDER**

By Monika Buerger, DC



Sensory Processing Disorder (SPD) is a neurodevelopmental disorder resulting from the brain's inability to integrate everyday sensory information received from the five senses: touch, vision, sound, smell, and taste.

In addition to the commonly known five senses are two additional senses that are rarely heard of: the vestibular and proprioceptive systems. The vestibular system has functions located in the base of the brain (cerebellum), the upper part of the neck (cervical spine) and the inner ear. It is the "chief regulator" of all incoming sensory information and is considered the most important sensory system. The proprioceptive system is located throughout the spine as well as all other joints of the body. Dysfunction within the sensory integration system can lead to problems with learning, motor skills, behavior, and social and emotional development. It is estimated that as many as 1 in 20 children suffer from SPD.

Some children with SPD are hypersensitive: they feel bombarded by sensory information. These children may appear to be withdrawn socially because they avoid activities that make their brain feel "uncomfortable." On the other hand, children who are hyposensitive to sensory information may seek out intense sensory experiences in order to "feed" their brain. Complicating the diagnostic process are children who may have a mix of hypersensitive and hyposensitive sensory systems.

Some signs children may exhibit with Sensory Processing Disorder:

Touch Children who have difficulties processing tactile sensory input may appear: anxious, controlling, or aggressive. They may avoid or crave touch, dislike messy play such as finger painting, appear irritated by certain clothing (e.g. tags in shirts) or food textures, appear irritated when someone is in close proximity, often are very active or fidgety, have difficulty manipulating small objects, use their hands to explore objects, or often put objects in their mouth.

Smell These children may be susceptible to allergies, especially environmental allergies. They may exhibit an excessive need to smell toys, items, or people or they may not like new clothes, toys, or furniture because of the smell. Their behavior or health may deteriorate after cleaning house due to the toxic effect of the cleaning chemicals.

Taste Children who have trouble processing taste stimuli may be "picky eaters." They may also exhibit pica, the act of eating non-edible items such as chalk, crayons, dirt, etc.

Vision Children with sensory processing disorder of the visual system may have difficulty going down stairs; poor hand-eye coordination; pain, watering, or discomfort when required to perform visual work; frequent headaches or stomachaches after visual work or school; or difficulty copying. These children may be unable to read without losing place or aloud. They may also rub their eyes after use.

Auditory Children with auditory processing disorder may become upset with loud or unexpected noises; hum or sing to screen out unwanted noises; be easily distracted by loud noises; enjoy loud sounds and repeat them several times; have difficulty with clothes that make noise; notice or are bothered by environmental noises that most would screen out (e.g. refrigerator, air conditioner, ticking clocks); have difficulty with verbal prompts ; cover ears frequently; or speak in a loud voice to screen out incoming noise.

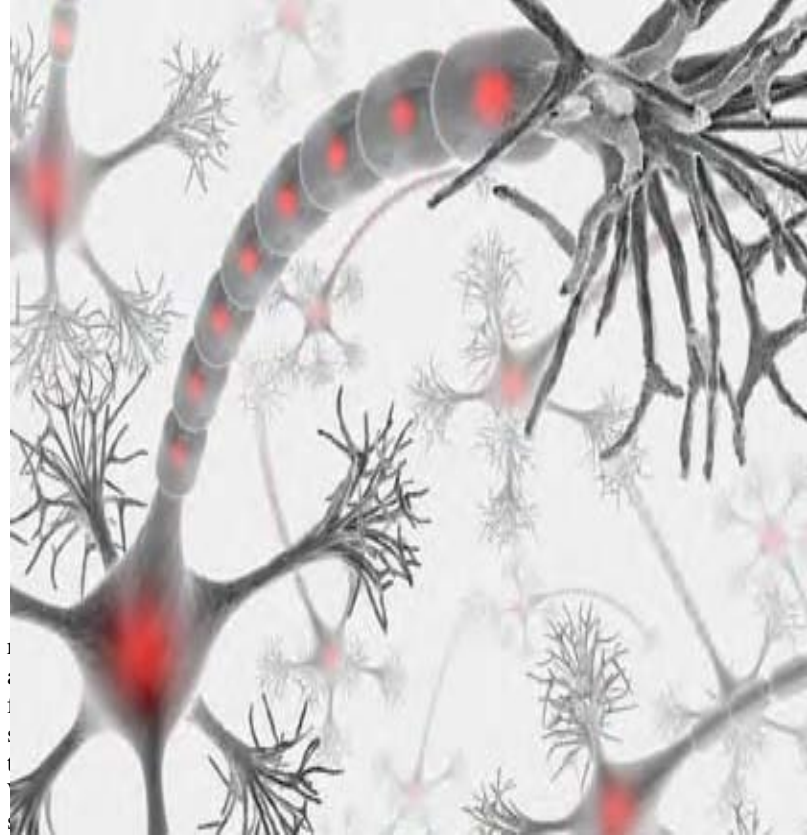
Vestibular Children with vestibular processing disorder may have a history of repeated ear infections and/or ear tubes. They may also display avoidance of movement, especially head movement; head banging; motion sickness; avoidance of merry-go-rounds or rollercoasters; excessive spinning or watching things spin; inability to read or write in cursive; dizziness or nausea caused by watching things move; hearing problems; inability to sustain listening without moving or rocking; problems with balance; difficulty walking on uneven surfaces; or the need to move fast.

Proprioception Children with proprioceptive processing disorder may need to have physical contact with another person, i.e. clinging or the need to be held, swaddled, and snuggled. These children may exhibit hysteria over washing hair or pulling shirts over the head, avoid of eyes-closed activities, difficulty falling asleep and staying asleep, sleep walking or falling out of bed, extreme restlessness while sleeping, need for heavy covers, clothing, or a backpack to feel grounded, or need to have light on to sleep. Some children avoid team sports, have an aversion to crowds, are clumsy, trip over their own feet, bump into things, have difficulty grasping mathematical concepts, or are unable to accept physical and social boundaries

Children with SPD can often be misdiagnosed as having ADD, ADHD, or various other neurodevelopmental disorders. This is because SPD often co-exists with ADD, ADHD, Autism Spectrum Disorder, Obsessive Compulsive Disorder, Anxiety Disorder, Traumatic Brain Injury, and various learning disorders. Children with SPD are often misunderstood and labeled as aggressive, clumsy, inattentive, or “difficult.” The neurological disorganization resulting in SPD can occur three different ways: the brain does not receive messages due to a disconnection in the nerve cells; sensory messages are received inconsistently; or sensory messages are received consistently, but do not connect properly with other sensory messages.

Treatment for Children with SPD

Refined sugar should be avoided (and definitely not a staple for these children!) It is helpful for parents to begin “label



Food preservatives and food colorings are considered neurotoxins—substances that are considered toxic to the nervous system. Recently, the American Academy of Pediatrics published a report supporting the use of preservative-free, food coloring-free diets as an intervention for children with attention deficit hyperactivity disorder (ADHD).

Omega-3 fatty acids are good “brain food” and can be found in cold water fish such as salmon, tuna, and trout. They are also found in dark green leafy vegetables and flaxseed oil. It can also be helpful to supplement children with a good brand of omega-3 fish oil which is available in capsule, chewable, and liquid forms.

Dairy-free and gluten-free diets may also be beneficial in children with neurodevelopmental disorders. These may be a little trick to initiate at first but the benefits are often worth it. There are a number of great books available to help parents on initiating such a diet and many grocery stores and health food stores now carry dairy-free and gluten-free products.

Exercise their brains! Our brains learn and retain information by moving through three-dimensional space. In today’s world, infants are spending more time in car seats, walkers, and other restrictive devices that impair proper neuropathway development. As children get older, the increase use of computers, video games, and text messaging limit critical movement necessary to continue and maintain proper neuropathway development. Children need a daily dose of “brain food” such as running, skipping, jumping, climbing, swinging, and crawling. In addition, children need activities that involve movement of both sides of the body. When they are young, expose them to a variety of different textures,

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especially on their hands, feet, and face. Get them moving and let them be kids!

Chiropractic care is an essential cornerstone of treatment for any child with a neurodevelopmental disorder. Children with SPD are said to have a “disconnect” between the brain and the body. Properly functioning vestibular and proprioceptive sensory systems are the two key components in developing and maintaining a healthy sensory processing system. Because these two sensory systems have a large part of their function housed in the spine, it is essential that children with signs of SPD be evaluated by a chiropractor for vertebral subluxations (misalignments) of the spine that may cause interference within the brain and sensory systems.

In children with SPD there is often a history of a traumatic or difficult birth, c-section, or breach birth; all of which can cause injury and subluxations to the spine. Additional causes of subluxations include falls; when children are learning to walk, they are constantly falling face first or backwards. Then there are the falls out of cribs, off couches, beds, chairs; off playground equipment or bicycles, etc. Car accidents can cause spinal trauma, even if the child is restrained in a car seat or has a seat belt on. School-aged children carrying backpacks, children playing recreational or school-related sports are all prone to spinal injuries.

To find a pediatric chiropractor near you, please visit www.icpa4kids.org

*View article references and author information here:
www.pathwaystofamilywellness.org/references.html*

Chiropractic photograph courtesy of Lisa Geiger.