What is Sensory Processing Disorder (SPD)?

Sensory Processing Disorder (SPD) is a complex disorder of the brain that affects developing children and adults. People with SPD misinterpret everyday sensory information, such as touch, sound, and movement. They may feel bombarded by information, seek out intense sensory experiences, or have other symptoms.

“Sensory processing” refers to our ability to take in information through our senses (touch, movement, smell, taste, vision, and hearing), organize and interpret that information, and make a meaningful response. For most people, this process is automatic. When we hear someone talking to us or a bird chirping, our brains interpret that as speech or an animal sound, and we respond to that information appropriately.

Children who have a Sensory Processing Disorder (SPD), however, do not experience this process in the same way. SPD affects the way their brains interpret the information that they take in and also how they act on that information in terms of emotional, behavioural, motor, and other responses.

How is SPD manifested?

There are several types of Sensory Processing Disorder. Each one may result in a number of different behavioural and sensory patterns. Some of the most common behaviour patterns are described below:

Sensory-Avoiding Children

Some children with SPD are over-responsive to sensation. Their nervous systems feel sensation too easily or too intensely, and they feel as if they are being constantly bombarded with information.

Consequently, these children often have a “fight or flight” response to sensation. This condition is called “sensory defensiveness.” They may try to avoid or minimize sensations, such as by avoiding being touched or being very particular about clothing.

These children may:
- respond to being touched with aggression or withdrawal
- fear movement and heights, or get sick from exposure to movement or heights
- be very cautious and unwilling to take risks or to try new things
- feel uncomfortable in loud or busy environments, such as sports events or malls
- be very picky eaters and/or overly sensitive to food smells

These children may be diagnosed with Sensory Over-Responsivity.

Sensory-Seeking Children

Some children are under-responsive to sensation. Their nervous systems do not always recognize the sensory information that is coming into the brain. As a result, they seem to have an almost insatiable desire for sensory stimulation. They may seek out constant stimulation or more intense and/or prolonged sensory experiences, such as taking part in extreme activities or moving constantly.

Some behaviours seen in these children include:
- hyperactivity as they seek more sensation
- unawareness of touch or pain, or touching others too often or too hard (which may seem like aggressive behaviour)
Sensory Processing Disorder (SPD), continued

- taking part in unsafe activities, such as climbing too high
- enjoying sounds that are too loud, such as a very loud television or radio

These children may be diagnosed with Sensory Under-Responsivity.

Motor Skills Problems

Other children with SPD have trouble processing sensory information properly, resulting in problems with planning and carrying out new actions. They have particular difficulty with forming a goal or idea or developing new motor skills.

These children may have:
- poor fine motor skills, such as handwriting
- poor gross motor skills, such as kicking, catching, or throwing a ball
- difficulty imitating movements, such as when playing “Simon Says”
- trouble with balance, sequences of movements, and bilateral coordination
- a preference for familiar activities or play, such as lining up toys
- a preference for sedentary activities, such as watching TV, reading a book, or playing video games

These children may get frustrated easily and may seem manipulative and controlling. Some may try to compensate with an over-reliance on language and may prefer fantasy games to real life. They may also try to mask their motor planning problems by acting like a “class clown” or avoiding new group activities.

These children may be diagnosed with Dyspraxia (sensory-based) Motor Planning Disorder.

Who is affected?

Studies show that as many as five percent of all children suffer from SPD. Yet despite this high rate, information and help for those with this disorder is still very limited. This lack of resources, combined with the fact that SPD often looks like other disorders, often results in misdiagnosis and inappropriate treatment for many children.

How is SPD diagnosed or detected?

While many children display the above behaviours, consider whether a child shows them more often and more dramatically than other children of the same age. Behavioural signs include:
- over- or undersensitivity to touch, sounds, sights, movement, tastes, or smells
- intense, out-of-proportion reactions to everyday experiences
- resistance to changes in routines and moving from activity to activity
- unusually high or low activity level
- difficulty handling frustration
- impulsivity, with little (or no) self-control
- difficulty paying attention and staying focused
- dislike of getting “messy” (food, sand, glue, paint, lotion), especially on hands or face
- discomfort with certain clothing fabrics, seams, tags, waistbands, etc.
- resistance to grooming activities such as brushing teeth, hair washing, or nail cutting
- avoidance to touch or needing it more than other children
- unusually high or low pain tolerance
- fear of movement activities (swings, see-saw, etc.)
- avoidance or excessive cravings for slides, swings, bouncing, rocking, jumping
- poor balance, frequent falls, or awkward running
- weakness or less coordinated than other children his age
- walking on tiptoes
- touching of walls or furniture when walking
- pushing, hitting, biting, or banging into other children although he is not aggressive
- overly sensitivity to noise (sirens, vacuum cleaner, etc.)

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- hearing things you do not hear
- not responding to you, although you know he can hear
- getting dizzy easily or never at all
- squinting, blinking, or rubbing eyes frequently
- having trouble reading
- withdrawing, “tuning out,” or crying in group situations
- avoidance of foods most children of same age enjoy
- craving or avoiding particular food textures (chewy, crunchy, slippery, etc.)
- frequently chewing on clothing or hair
- difficulty with fine motor tasks (writing, buttons, stringing beads, using scissors, etc.)
- poor handwriting and drawing skills
- speech-language, motor skill, or learning delays
- inconsistent sleep and hunger patterns

Many children show these signs for a variety of reasons. Some of these behaviours are appropriate at certain ages. Most toddlers are pretty impulsive (that’s the terrific but “terrible” two’s). However, a 10-year-old who acts on every little impulse is a different matter. A strong dislike of wool clothing, discomfort making eye contact with strangers, or fear of a goat at the petting zoo that bleats loudly and unexpectedly all fall within the range of so-called typical sensory sensitivity for a child so long as these sensory experiences do not interfere with his day-to-day function. A child with sensory problems usually has maladaptive responses to everyday situations and consistently displays behaviours that are not age-appropriate and that cannot be dismissed.

Additional Resources:

COMMON SENSES – www.commonsenses.ca
Common Senses is an online Sensory toyshop dedicated to offering affordable sensory toys to children from 5 to 105

THE SPD NETWORK - www.spdnetwork.org
A network for families and professionals with resources that can help you learn more about SPD and find effective treatment.

PARENTBOOKS – www.parentbooks.ca
Parentbooks offers the most comprehensive selection of resources available anywhere - from planning a family, to everyday parenting issues for special needs of all kinds. The selection of resources for caregivers, counselors, therapists, educators, and clinicians serving the everyday and special needs of families is unequaled. We can help you find exactly what you need for a specific client or situation, and we can also help you build your professional library.

BOOKS AND PRINT PUBLICATIONS:

Building Bridges with Sensory Integration
by Ellen Yack, Shirley Sutton, & Paula Aquilla

Sensory Integration and the Child
By Jean A. Ayres

SenseAbilities – Understanding Sensory Integration
By M. Colby Trott, M.K. Laurel & S.L. Windeck

The Out-of-Sync Child
By Carol Stock Kranowitz