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Sensory Processing Disorder and Motor Delays **By Lindsay Borda, OTR/L**

-Sensory Processing Disorders (SPD)

SPD in short is a neurological disorganization of sensory input entering the brain. When sensory input is not processed efficiently, we are not able to react or behave in a meaningful/functional manner.

Sensory systems in the brain: *Visual, Auditory, Proprioceptive* (body awareness), *Vestibular* (balance, gravitational insecurity), *Tactile, Gustatory, and Olfactory*.

Visual: The visual system is a very complex one. Most of vision takes place in the brain from association with touch and proprioception. The Vestibular system controls ocular-motor movement, under-registration of movement may result in vision difficulties such as visual tracking/scanning, convergence, quickly changing focus from near point to far point, eyes moving together.

Children with vision deficits may appear to have ADHD/behavior problems. Look for children rubbing their eyes during visual motor activities, reading, tilting head, resting head in hand at table, fatigue.

Auditory: ears need to be able to filter out extraneous noises (fans/heat or AC units, traffic, doors closing, chairs moving, etc.) And be able to focus on what's important (teacher/parents giving instructions, listening to a story, etc.)

Children with difficulty filtering out extraneous noises will have difficulty attending to task. They will turn their head to the distracting noise and have difficulty being re-directed, may be unable to complete tasks.

Proprioceptive: perception of joint and other body movements, integrates touch and movement, helps with body awareness and spatial orientation of our body, helps with motor planning and motor control
Children with decreased proprioceptive awareness or decreased body awareness have trouble sitting in circle time, they are constantly moving around, leaning on walls, furniture or people. They may walk down hallways either touching the wall or leaning on the wall. A child with these deficits may appear to be clumsy and fall a lot, have difficulty sitting in a chair-may lean on desk or table.

Vestibular: this system helps you to orient yourself in space and make adaptive movements of the head, extremities, and eyes. This system influences muscle tone. Low muscle tone results when not enough stimulation reaches the muscles and therefore the vestibular system is under processing incoming information. Having low muscle tone makes it difficult to sustain upright seated posture; effects eye movements, decreased joint stability, decreases development of core muscles and bilateral coordination/crossing midline.

A child with a vestibular imbalance may present with gravitational insecurity (frightened when feet leave the ground), poor balance, difficulty keeping body still during seated tasks, poor posture, delay in riding bikes, fearful of swings, fast moving playground equipment, etc.

Tactile: one of the first systems to develop, babies explore and learn about their world through touch. Tactile information is a major source of sensory input about the environment. It can warn of danger (hot/cold) reflexive response (fight or flight). Touch can be alerting and calming. Touch is very important in the learning process, helps us develop perception in the hands helping to form fine motor skills. A child with sensitivity to touch can be very “defensive” their system is always in a high-alert state, causing constant agitation, restlessness, aggression. A child with under-sensitive system may seem overly tired/sluggish, floppy muscles, poor registration of pain, decreased fine motor skills and poor posture.

Olfactory and Gustatory: Smell and taste, these systems not frequently addressed with sensory processing intervention, deficits here may result in “picky eaters”, may overreact to strong odors.

Motor Delays

-Poor bilateral coordination

Difficulty using both sides of body together, difficulty using non-dominant hand to stabilize an item while dominant hand manipulates (opening containers, cutting, writing)

-Fine Motor Delays/Incoordination:

Difficulty with pincer grasp, pencil grasp, manipulating small items in the hand

-Visual Motor Delays

Difficulty controlling a tool in the hand to produce accurate cutting, drawing shapes, letters, etc.

Visit www.littlehandspediatrictherapy.com for more information on Occupational Therapy in Northern Virginia.

Resources

The Out of Sync Child written by Carol Stock Kranowitz

Well written book, easy for teachers and parents to understand what sensory processing is and what strategies can help their child

AOTA website: <http://www.aota.org/About-Occupational-Therapy/Patients-Clients/ChildrenAndYouth.aspx#sthash.WbLtirgj.dpuf>

Provides information for home and school activities

Edwards, Rita: In-Synch 1 Integrating the Senses through Movement Course Manual