

Focus of the Month:

Sensory Integration

We all learn about the environment through information from our senses. Most people have heard of the five senses, touch, hearing, sight, taste, and smell. However the senses also include awareness of your body position (known as proprioception), and movement and balance (known as vestibular discrimination). Sensory integration is the ongoing, fluid process within the nervous system that organizes information from our senses so that it can be used to respond appropriately to the environment. Sensory integration is made up of two components: sensory modulation and sensory discrimination.

Sensory Modulation refers to the way an individual responds to what is going on in their environment. Our nervous system is constantly regulating input from our environment so that the information from our senses is understandable. When we are calm, alert, and ready to learn, we are in a functional regulatory state. Difficulties with sensory modulation affect an individual's behavior and emotions, as they may be easily distracted, react to unimportant things in the environment, or overreact to sensory stimulation. This overreaction may appear as a fight, flight, or fright response. A child may also appear as anxious or inattentive due to difficulties with sensory modulation.

Sensory Discrimination is the ability to correctly identify and understand the type and quality of input from our individual senses as well as the ability to interpret this information for skill development. Difficulties with sensory discrimination can impact how a child explores their environment and how

they develop foundational skills needed for higher level activities. We use our tactile (touch) discrimination when determining the difference between a nickel from a quarter in our pocket by feeling the size, shape, weight, and texture without looking. This is a necessary foundation for hand skills, tool use, shoe tying, and handwriting.

The sense of proprioception impacts on our touch and movement systems. Proprioceptive discrimination allows us to understand our position in space, affects our body awareness, and provides feedback about how much force we use on objects and when completing tasks. This is an important basis for using appropriate force with tools, like hanging up a telephone gently versus slamming it down, and completing everyday tasks without having to watch each step. Movement information is controlled by the vestibular system that is located in the inner ear.

Vestibular discrimination provides individuals with information on movement in terms of direction and speed. It also influences the ability to control posture, the ability of the eyes to work together to follow and hold an object in the line of vision (oculomotor skills), balance, and coordination. Mild difficulties with vestibular, proprioceptive discrimination and ocular motor skills can present as increased falling as well as difficulty with learning how to crawl, walk, and ride a bike.

Sensory discrimination in the areas of tactile, proprioception and vestibular senses is especially important in motor planning.

Motor planning involves a continuum from simple motor acts such as imitating a body movement to complex motor acts such as riding a bike. The complex end of the spectrum is known as bilateral coordination and sequencing because it involves using both sides of the body, moving through space, and maintaining appropriate timing.

Frequently, problems with sensory integration processing are the root of difficulties in behavior, coordination, and completion of routine tasks. Children with sensory integration dysfunction may also appear to have inconsistent reactions to sensory information, making it difficult for parents or teachers to be sure where the child's difficulties lie. Children that have difficulty coping during events that involve increased sensory inputs, such as going to the mall or being at a birthday party may need some preparation before attending these events. By scheduling activities that allow your child to have time to relax between busy activities you will decrease the amount of meltdowns during more intense events. Have a bag with toys and activities that your child enjoys and be aware of a quiet place to go nearby in case your child is overwhelmed or over stimulated. Additionally, activities that involve deep pressure (firm hugs) and slow rhythmical movement (rocking or bouncing) are calming during stressful situations.

This article was compiled by Dori Cohen, M.S., OTR/L. She is currently working as an occupational therapist at a private practice in Massachusetts which specializes in clinic based therapy with a sensory integration focus.

How do I know if my infant/toddler has sensory integration dysfunction? The following checklist may be a helpful in learning whether your child has difficulties processing sensory information.

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|---|--|
| <input type="checkbox"/> 1. Is easily startled | <input type="checkbox"/> 10. Has difficulty tolerating a prone (on stomach) position |
| <input type="checkbox"/> 2. Has difficulty consoling self; is unusually fussy | <input type="checkbox"/> 11. Dislikes baths |
| <input type="checkbox"/> 3. Has poor muscle tone | <input type="checkbox"/> 12. Difficulty playing with age-appropriate toys |
| <input type="checkbox"/> 4. Is unable to bring hands together and bang toys | <input type="checkbox"/> 13. Resists being held or becomes tense when held; dislikes being cuddled |
| <input type="checkbox"/> 5. Is slow to roll over, creep, sit, or stand | <input type="checkbox"/> 14. Has sucking difficulties |
| <input type="checkbox"/> 6. Has difficulty babbling | <input type="checkbox"/> 15. Is overly active; seeks excessive movement |
| <input type="checkbox"/> 7. Does not explore | <input type="checkbox"/> 16. Is unable to settle down; has sleep difficulties |
| <input type="checkbox"/> 8. Cries or becomes tense when moved through space | |
| <input type="checkbox"/> 9. Frequently makes fists (after six months) | |

This checklist was developed by Occupational Therapy Associates - Watertown, P.C.

Book of the Month:

This month's book of the month is *The Out-of-Sync Child has Fun: Activities for Kids with Sensory Integration Dysfunction* by Carol Stock Kranowitz, MA.

The Out-of-Sync Child has Fun is a sequel to Kranowitz's first book *The Out-of-Sync Child* where she outlines exactly what sensory integration dysfunction (SID) is, how to determine if your child may be affected by it and how to cope with it. Though it is a difficult subject to tackle, Kranowitz makes it easy for every parent to grasp.

In *The Out-of-Sync Child has Fun*, Kranowitz again gives an overview of what SID is but the focus of the book is on how to help the child deal with SID through tactile, vestibular, proprioceptive, and visual activities and games. This book is a large compilation of activities that have been used for years by SI trained therapists. The book is focused on getting a child to be comfortable with the senses they may have difficulty discerning. For example, the activity "paw print" requires a child to put hands and feet in different textures like corn starch and paint and move to clean mat creating a "paw print." Its goal is to improve tactile perception and help with tactile desensitization. The book also includes an extensive list of resources for parents as well as a list of materials to use for the activities.

I found both *The Out-of-Sync Child* and *The Out-of-Sync Child has Fun* to be extremely helpful in my son's sensory integration therapy. Doing various activities from the book on a regular basis really helps him to understand his senses and his relationship to the space around him.

This month's reviewer is Kathy Paz, founder of Preemies Today and mom to Alex, former 25 weeker, and Lily.



Local News:

Preemies Today Awarded Grant from the March of Dimes

Preemies Today was recently awarded a Community Action Grant from the March of Dimes to fund the publication of its newsletter and resource brochure for the 2005 fiscal year! Thank you March of Dimes for helping us help families. Our newsletter will soon be published in both English and Spanish.

January Events:

Preemies Today Sign Playgroup

Come and join us on January 29th to meet other families and learn about teaching your preemie American Sign Language. We will be meeting at the Pohick Regional Library located at 6450 Sydenstricker Rd., Burke, VA at 10:30 am. Please contact Mary Beth for more information 703-266-9104 or email her at marybethleightley@prodigy.net.

February Events:

February Family Outing

Celebrate Valentine's Day with us on February 19th at Tysons-Pimmet Regional

Library located at 7584 Leesburg Pike, Falls Church, VA at 10:30 am. We will be having a potluck as well as a craft activity for the kids. Please contact Mary Beth for more information 703-266-9104 or email her at marybethleightley@prodigy.net.

Support Resources:

"A Friend to Talk to"

Our "Friend to Talk to" support line is up and running. Please feel free to give us a call and one of our preemie parent volunteers can offer you some much needed support. The support line telephone number is 703-994-6624.

NICU Support Group

INOVA Healthsource is continuing to offer a NICU Support group for current INOVA Fairfax NICU families. The meetings are held on the unit and vary month to month. The group is led by Lynn Kuba, RN and is a great opportunity to talk about your experience in the NICU. For more information contact INOVA Healthsource at 703-204-3366.

Maryland Families Unite!

Maryland families, your Preemies Today

coordinator is looking for you. We are beginning to organize events and meetings in Maryland. Please contact Susan for more details at 301-977-3230 or email her at zanbusch@hotmail.com.

Preemies Today Online Chat

Join us every 1st and 3rd Thursday of every month at 8:30 pm for an online chat. For more information contact Julie at jkipers@lmi.org.

Local Support Groups

Local support groups are going strong! On the 2nd and 4th Wednesdays at 7:30 pm we hold our local support group meetings. For more information contact us at preemiestoday@yahoo.com.

Preemies Today Playgroups

Preemies Today continues to offer monthly playgroups. Monthly playgroups offer our children a stress-free environment to play. Playgroups typically meet in a member's home or in a location of the group's choice. For more information contact Deborah at Deborah_Leaf@yahoo.com