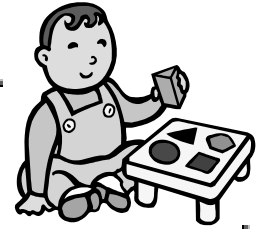


## SENSORY ISSUES AND NEEDS OF CHILDREN IN EARLY START



A typically developing child's central nervous system is designed to receive, interpret, and use sensory input from the environment and his own body. Children who have difficulty processing and integrating sensory input may experience challenges in engaging in their environment. This may result in difficulties with:

- ◆ behavior
- ◆ attention
- ◆ learning
- ◆ communication
- ◆ socialization
- ◆ motor skills

### TERMS AND DEFINITIONS



#### 1) BASIC TERMS

Proprioception- Related to the sense of movement and position of body parts. Body awareness originating from one's physical actions and stimulating sensors in muscles, joints and skin. Conscious awareness of proprioception is known as **kinesthesia**.

Tactile - Related to the sense of light touch, pressure, temperature, vibration and ability to discriminate touch sensations.

Vestibular - Related to sense of balance, head and body position in space and movement.

Visual - Related to the sense of seeing.

Auditory - Related to the sense of hearing. Ability to respond to sound.

Olfactory - Related to the sense of smell.

Gustatory - Related to the sense of taste.

Sensory Integration Theory – “(1) A theory developed by Dr. A. Jean Ayres to explain the relationships between neurological processes, sensory motor behavior, and academic and social-emotional functioning; (2) The process of the nervous system (particularly at the brain-stem level) that combines, associates, interprets, and organizes sensory information from one's body and the environment. Successful integration of sensory information enables one to engage in effective environmental and social interactions.” (**Sensory Integration for Early Intervention**, 1998)



A child may have the **ability** to see, hear, taste, etc., but may have difficulty **making sense** of the information.

#### 2) TERMS FOR CONCERNS AND PROBLEMS

Motor Planning Difficulties – The tendency to have difficulty with the process of figuring out, organizing, and carrying out a series of actions necessary to complete an unfamiliar activity. Related to a function known as **praxis**.

**Examples:** Clumsiness learning a new task, avoiding new or unfamiliar physical games or activities. (Difficulty with motor planning is also known as **dyspraxia**)

Regulation Disorder of Sensory Processing – A medical diagnosis. “*Difficulties in regulating emotion/behavior in response to sensory stimulation, leading to impairment in development and functioning*”. (Diagnostic Classification of Mental Health and Developmental Disorders of Early Childhood, Revised Edition)

**Examples: Prolonged crying, difficulties sleeping (particularly in infancy); frequent tantrums and difficulty in transitioning (toddlerhood).**

Sensory Defensiveness (Sensory Over-Responsivity) – The tendency to react negatively and emotionally to stimulation from one or more sensory systems that most people consider to be non-offensive, including touch, sound, movement/gravity, smell, taste. The most common are tactile and auditory defensiveness.

**Examples: Tactile- Dislike of being held, difficulty tolerating certain textures (either in the mouth or with the hands), refusal to walk barefoot on grass or sand.**

**Auditory- Covering ears or crying in response to common environmental sounds (vacuum, telephone, garbage disposal), unreasonable fear of heights, body movement or swinging.**

Sensory Seeking (Sensory Under-Responsivity) – The tendency to seek out constant stimulation, as observed in a child who engages in intense or prolonged sensory experiences.

**Examples: Taking part in unsafe activities (climbing too high), high activity level as child runs, swings and jumps, frequent touching/fidgeting with objects (may have decreased awareness of touch or pain).**



The professional community may use the following terms interchangeably to refer to sensory problems: “sensory processing disorder,” “sensory integration dysfunction,” and “sensory modulation disorder.”

### 3) TERMS FOR INTERVENTIONS

Occupational Therapy – Occupational therapy is skilled treatment that gives people the “*skills for the job of living*” necessary for independent and satisfying lives. For young children, these skills may include play, feeding, bathing, diapering and dressing and interacting/bonding with others.

Sensory Diet – A structured program developed and supervised by an Occupational Therapist, consisting of sensory and motor activities, to be done over the course of the day, in order to “*nourish*” the child’s sensory integrative needs, facilitating the optimal level of arousal and performance.

**Examples: Squish balls, physical activities, heavy push toys.**

Sensory Motor Activity – Focuses on developing motor skills in the context of increased sensory stimulation activities.

**Examples: Obstacle course, playground activities, swimming.**

Sensory Stimulation Program – Focuses on administering direct sensory stimulation in order to elicit a generalized behavioral response.

**Examples: Infant massage, rocking, swinging.**

Sensory Strategies – Techniques involving sensory stimulation or environmental modification used in the home or classroom which will help calm or increase alertness of the child in order to increase attention and availability to learn.

**Examples: Dim lights or slow swinging to calm; textured toys or bouncing on your lap to alert; “sensory-rich environment”.**

Sensory Integration Intervention – Provided by an Occupational Therapist with specialized training in the sensory integrative frame of reference as developed by Dr. A. Jean Ayres. “Focuses on eliciting adaptive responses through the use of controlled sensory stimulation during engagement in a meaningful, child-directed activity. The emphasis is on the integration of vestibular, proprioceptive, and tactile sensory input for organized behavior, not solely on the motor response.” (Fisher and Murray, 1991)

## SCREENING TOOLS



Screening tools are informal instruments that may be used to better define the types of behaviors/characteristics that may point to sensory processing difficulties. It is recommended that sensory issues be considered in all assessments of children for the Early Start Program. Following are some screening tools that may be used:

### **The Infant/Toddler Symptom Checklist**

*(By Georgia A. DeGangi, Ph.D., OTR/L, FAOTA; Susan Poisson, M.A.; Ruth Z. Sickel, Ph.D., RN; and Andrea Santman Wiender, MHS, PT, PCS)*

A screening tool to identify infants and toddlers 0-36 months with regulatory disorders, and those at risk for later learning and sensory-integrative disorders. It helps determine whether further diagnosis is required. It consists of six variations, five which are age-specific by months and one which is a general screening profile. The checklist focuses on the infant's responses in nine domains. It can be administered by the parent or in the context of a parent interview and takes approximately 10 minutes. Developed by the Reginald S. Lourie Center for Infants and Young Children

Available from Therapy Skill Builders, 3830 E. Bellevue/P. O. Box 42050, Tucson, AZ 85733, 800-763-2306

### **The Hawaii Early Learning Profile [HELP] Regulatory / Sensory Organization Strands**

*“A curriculum-based developmental assessment which is available in a consumable checklist format for direct use with individual children...Pertinent HELP skills were selected from all domains which tap the child's self-regulation capacities (i.e., sleep cycles, regulation of moods, attention, and consolibility), and, the child's capacities to perceive and organize various sensory experiences, i.e., sights, sounds, touch, taste, smell, vestibular and proprioception.”* (VORT Corp., 1992) For infants and toddlers, birth to 36 months. May be used by a variety of early childhood professionals.

Available from VORT Corp., P.O. Box 60132, Palo Alto, CA 94306

### **Temperament and Atypical Behavior Scale**

*(By S. Bagnato, J. Neisworth, J. Salvia and F. Hunt)*

A checklist completed with the parent in either a screening or assessment format “designed to identify temperament and self-regulation behavioral indicators... including temperament, attention and activity, attachment and social behavior, neurobehavioral state, sleeping, play, vocal and oral behavior, senses and movement, and self-stimulatory behavior.” For infants and young children ages 11-71 months who may be at risk or who have delays or disabilities. May be used by a variety of early childhood professionals. “Provides clinical validity for the regulatory disorder axis of the ZERO TO THREE: National Center for Infants, Toddlers, and Families.”

Available from Paul Brookes Publishing Co., P.O. Box 10624, Baltimore, MD 21285

## MAKING A REFERRAL



If a parent, service provider or early interventionist has concerns due to “Red Flags” from screening and/or observation, the Early Start Service Coordinator (schools or Regional Center) should be contacted. If appropriate, the Service Coordinator will make a referral for assessment by a qualified assessor, which in most cases is a licensed occupational therapist.

## “RED FLAGS”



If the following behaviors or characteristics are observed in a child, or if they are revealed in a screening, they may indicate a need for assessment for sensory processing difficulties.

Some examples of common “red flags” are:

- ◆ Requires extensive help to fall asleep
- ◆ Goes quickly from whimper to intense cry (labile)
- ◆ Resists cuddling, pulls away or arches
- ◆ Craves swinging or moving upside down
- ◆ Over-reaction to light touch
- ◆ Easily startles or is distressed by normal household sounds
- ◆ Unusually quiet or passive
- ◆ Difficulty with transitions
- ◆ Difficulty tolerating lumpy or sticky textures of food



*The “red flags” may change depending on the age of the child.*

## ASSESSMENTS



Assessments are formal tools that require specialized training for the professional conducting the assessment. Following are some assessments that may be used for assessing infants and toddlers.

### **Infant/Toddler Sensory Profile**

*(By Winnie Dunn, Ph.D., OTR, FAOTA)*

This instrument measures the child’s sensory processing abilities and links sensory processing with the child’s daily life performance. Caregivers complete a judgment-based questionnaire, in English or Spanish, reporting the frequency with which children respond to various sensory experiences. It provides validated and reliable scores, and is appropriate for children with all types of disabilities.

Available at The Psychological Corporation (*Harcourt Australia*), Locked Bag 16, St. Peters, NSW.2044, Australia, (+61) 02-9517-8958, (+61) 02-9517-2249 Fax

### **Test of Sensory Function in Infants**

*(By DeGangi and Greenspan, 1989)*

This test helps identify infants with sensory integrative dysfunction—including those at risk for developing learning disabilities as they grow older. The TSFI provides objective criteria to determine whether, and to what extent, an infant has deficits in sensory functioning.

Designed for use with children from 4 to 18 months old, the TSFI provides an overall measure of sensory processing and reactivity, as well as scores on five subdomains.

Available at Western Psychological Services, 12031 Wilshire Blvd., Los Angeles, CA 90025-1251, 800-648-8857 (U.S. and Canada only), 310-478-2061, 310-478-7838  
Fax

### **Early Coping Inventory: A Measure of Adaptive Behavior**

*(By S. Zeitlin, G. G. Williamson, M. Szczepanski)*

*“An observation instrument that assesses coping-related behaviors a child uses to manage the routines, opportunities, challenges, and frustrations encountered in daily living”.* For infants and young children functioning developmentally between 4 and 36 months of age. Used primarily by Occupational Therapists to understand sensorimotor organization, reactive behaviors, and initiated behaviors.

Available from Scholastic Testing Service, Inc., Bensenville, IL 60106

### **The Sensory Integration Observation Guide**

*(Adapted by R. Schaaf, J. Burke, and M. Anzalone, March 1995 from Jirgal & Bouma, 1989)*

An informal clinical observation guide with questions directed toward the infant's parent regarding sensory-based functional behavior. Will elicit “Red Flags” and descriptions of behavior relative to sensory systems. For infants functioning developmentally between 0 and 12 months. Used primarily by Occupational Therapists.

Available on [www.spdnetwork.org](http://www.spdnetwork.org)

## **SERVICES**



The following are services which **may** be provided to address a child's behavioral, attentional, learning, and/or or social difficulties resulting from problems with sensory processing.

- ◆ Consultation and training for the family in ongoing adjustment of the sensory environment
- ◆ Training for the family in sensory regulatory interventions
- ◆ Behavioral and social interventions provided by an Early Interventionist
- ◆ Occupational therapy consultation to Early Interventionist and/or family
- ◆ Occupational therapy treatment with child

For children 0-3 years old in the Early Start Program, these services would be included on the Individual Family Service Plan (IFSP), which addresses the child's functioning across all environments accessed by the family.

## SENSORY PROCESSING ISSUES AFTER AGE THREE



Schools – Once a child in the Early Start Program reaches the age of three, s/he may or may not demonstrate a disability which qualifies for special education services. If eligible, an Individualized Education Program (IEP) will be developed. The IEP focuses on the child's functioning **in school** only, therefore, difficulties with sensory processing will be addressed only as they impact the child's ability to learn and function in school. For many children, sensory issues may be addressed through environmental supports, sensory diet, or modification of curriculum. The child may also have a positive behavior support plan and/or goals for self-regulation. Some students may have strategies implemented by a teacher or specialist with consultation from an Occupational Therapist (OT), and others may receive direct therapy services. Even with direct therapy, the goal is always performance in the school environment, and most therapy will be provided in the environment where the skill is needed (classroom, lunch room, playground). See *Ventura County SELPA website [www.ventura-countyselpa.com](http://www.ventura-countyselpa.com)* for "Educational Occupational Therapy Service Guidelines."

Other Agencies and Services – Some children may qualify for other agency services that address sensory issues and needs in environments other than school. Public agencies may include Regional Center and California Children Services (CCS). Some families may access private insurance to cover these services.

## RESOURCES



[An Introduction to Sensory Integration](#), by *Nan Arkwright, MOT, OTR*

[The Child with Special Needs](#), by *S. Greenspan & S. Weider*

[The Out of Sync Child & The Out of Sync Child Has Fun](#), by *Carol Kranowitz*

[Sensory Integration and Self-Regulation in Infants and Toddlers: Helping Very Young Children Interact with their Environment](#), by *G. Gordon Williamson and Marie E. Anzalone*

[Understanding Sensory Integration](#), by *Maryann Trott, Marci Laurel and Swan Weider*

**Websites:** [www.pediatrictherapy.com](http://www.pediatrictherapy.com) [www.spdnetwork.org](http://www.spdnetwork.org)

### REFERENCES FOR THIS BROCHURE:

#### [Understanding the Nature of Sensory Integration with Diverse Populations](#)

(By *Susanne Smith Roley, M.S., OTR*; *Erna Impeatore Blanche, Ph.D., OTR*; and *Roseann C. Schaaf, E.Ed., OTR, FAOTA*)

#### [Sensory Integration for Early Intervention: A Team Approach](#)

(By *Katherine Newton Inamura, M.A., OTR*)

## THANK YOU

The Ventura County Early Start Program wishes to thank the following who contributed to this pamphlet:

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