

## **BUILDING BLOCKS® Early Intervention Service** **Parent Information Sheet**

### **Understanding Sensory Issues**

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*“Our senses give us the information we need to function in the world. “ (Kranowitz, 1998, p.38)*

**Stimuli from both inside and outside our bodies sends information to our senses.** This information from our senses allows us to function in the everyday world (Kranowitz, 1998). Smell, touch, hearing, sight and taste are the five senses that respond to stimuli from outside our bodies. Three other important sensory systems are the tactile, vestibular and proprioceptive systems. The tactile sensory system processes information about touch; the vestibular processes balance, movement and gravity information; and the proprioceptive sense processes information about the body's position in space.

**Sensory integration** is the neurological process of taking in information from one's own body and environment through the senses to allow the body to function appropriately within the environment (Chapparo & Hummell, 2001). Dr Jean Ayres, an Occupational Therapist, developed the sensory integration dysfunction theory in the late 1950's. Sensory integration dysfunction refers to the poor processing of information from the tactile, vestibular and proprioceptive senses in the central nervous system.

Many children with Autism Spectrum Disorder have sensory processing problems. There are fun and appropriate activities you can use to encourage more organized and purposeful behaviour to suit the individual needs of your child. For more comprehensive assessments and further information contact an Occupational Therapist with training and experience in sensory processing.

### **Sensory Sensitivity**

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Children with autism may be **over** or **under-sensitive** to particular sensory experiences. This can result in avoiding or seeking particular types of sensory experiences.

**Hyper or over-sensitive response:** a **heightened** response to a particular sensory experience, as the sensations are registered too intensely.

**Hypo or under-sensitive response:** a **dampened** response to a particular sensory experience, as the sensations are being registered less intensely than normal.

**Response Fluctuations:** The child's response to particular sensory experiences may fluctuate from one day to the next. Some days your child may seek out certain sensory experiences, on other days he may avoid that same experience.

**The way your child behaves in response to sensory experiences can be seen as an indicator of what his nervous system requires.**

### ***The Tactile Sense***

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*"The tactile system plays a major part in determining physical, mental, and emotional human behaviour." (Kranowitz, 1998, p.66)*

The tactile system receives information through the receptors in the skin. This very important sense gives us the information that is necessary for us to participate in everyday activities. Inefficient processing of tactile sensations is referred to as **tactile dysfunction**.

#### **Tactile Hyper or over-sensitivity**

Over-sensitivity to certain tactile experiences is often referred to as **tactile defensiveness**. A child with tactile defensiveness may avoid certain touch sensations, yet may enjoy other touch sensations.

*For example, Mary avoids touching certain textures such as shaving cream (light touch), as sometimes this touch may be uncomfortable, or even painful. Mary really enjoys firm 'bear' hugs (deep touch pressure) from her Dad.*

#### **Tactile Hypo or under-sensitivity**

Under-sensitivity to touch is described as a poor response to tactile stimulation. An under-sensitive child requires more tactile stimulation and often seeks activities that provide this.

*For example, Jonathon seems to have a decreased reaction to pain as he does not seem to be aware if he touches a hot plate on the stove, of the burning sensation of hot temperature extremes.*

### ***The Vestibular Sense***

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*"The vestibular system takes in sensory messages about balance and movement from the neck, eyes, and body." (Kranowitz, 1998, p.98)*

The vestibular system receives information from the inner ear about the position of our heads and bodies in space. Movement and gravity stimulates the receptors to register every movement we make.

The different types of vestibular movement can have a **calming or excitatory** effect on your child. Back and forth, side to side, or up and down linear movement, such

as a rocking chair, can be calming. Circular movement, such as twirling, excites the vestibular system.

Inefficient processing of the information about movement, space, gravity and balance is referred to as **vestibular dysfunction**.

### **Vestibular Hyper or over-sensitivity**

Over-sensitivity to vestibular movement may result in an excited, emotional or negative reaction to this sensation. A child who is over-sensitive to movement may be intolerant or have a fear of movement (gravitational insecurity).

*For example, at Pre-school David prefers to sit still, rather than playing physically outside. He avoids climbing and playground equipment as he finds the movement to be uncomfortable and sometimes distressing.*

### **Vestibular Hypo or under-sensitivity**

A child who is under-sensitive to movement may seek activities that provide vestibular sensations. Usual vestibular activities are not satisfying to this child who has an increased tolerance for movement.

*For example, Jane is **very active**, constantly running from one activity to the next throughout the day. She particularly enjoys vigorous activities, such as climbing and jumping off furniture and playground equipment.*

## **The Proprioceptive Sense**

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*“Purposeful interactions with the environment through movement shape our understanding of our bodies and help us to develop more sophisticated motor responses.” (Reeves, 2001, p.19)*

Proprioception provides us with information about our body position or movement. This system contributes to body scheme and body awareness, muscle tone and coordinated movement. Proprioception is closely connected with the tactile and vestibular systems.

### **Poor Proprioception**

Children with poor proprioception have difficulty interpreting body position and movement sensations. Poor proprioception is usually associated with tactile and/or vestibular difficulties. The child may display poor body awareness, motor control and manipulation difficulties, often perceived by others as “clumsy”.

*For example, for sensory feedback Emily uses her oral motor muscles to chew constantly on non-edible objects such as toys, books and her shirt collars.*