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A Parent's Guide to Sensory Processing

(preschool child)

What is Sensory Processing?

All of the information we receive about the world comes to us from our senses, but because our body and brain take it all in and put it together at an unconscious level, we are not usually aware of them. Although we all know about our senses of taste, smell, sight and sound, most of us do not realise that our nervous systems also sense touch, movement, the force of gravity, and body position. All of our senses have receptors that pick up information for our brain to put together and understand. Cells in our skin send information about light touch, pain, temperature and pressure. Our inner ear detects movement and changes in the position of our head. Receptors in our muscles, tendons and joints give us awareness of our body position.

Our Sense of Touch

Although most people do not know much about the senses of touch, movement and body position, they are essential in helping us to do all the things we want and need to do in everyday life and in helping us to behave appropriately wherever we are. For example, our sense of touch (our tactile sense) makes it possible for us to find a torch in a drawer when it is dark. Touch also plays an important role in protecting our body from danger, for example, it can tell us the difference between the soft touch of a child's fingers and the crawling legs of a spider and tells us if we are putting our hands too close to a candle or gas flame, or in water that is too hot.

Our Sense of Movement

Our movement sense (our vestibular sense) gives us information about our body moving through space and our head position. It automatically co-ordinates the movements of our eyes, head and body. If our movement sense is not working well, it will be difficult or impossible for us to walk along a rocky path without falling, or to balance on one foot long enough to kick a football. The same movement sense is essential for maintaining our muscle tone, co-ordinating the two sides of our body and holding our head up against gravity.

Our Sense of Body Position

Closely related to our movement sense is our body sense (proprioception), which tells us what position our body is in, it tells us if our joints are bent or straight, if they are moving or not, how far and how fast they are moving, and what force we are using, so it help us to skilfully move our arms and legs without having to look at them. When our sense of body position is working efficiently, we automatically adjust our bodies to stop us falling off a chair. It also allows us to skilfully hold and use objects in our hands, such

as crayons, a spoon, a hairbrush and managing buttons or a zip. Because we have a good sense of body position, we can smoothly step off a kerb and walk across the road.

Organisation of Our Senses

Our touch, movement and body position senses start working before we are born. Messages are sent between them and the brain, like a complicated motorway system and we need them to be able to interpret a situation accurately and respond appropriately. Sensory Processing is the word we use to describe our body and brain's organising of the all the information from our senses so that we can do things and behave appropriately wherever we are.

Motor Planning

Sensory processing lets us react to sensations and also helps us to plan and organise our movements. Motor planning involves having an idea about what movement we want to do, planning how we will do it and then doing it. For example a preschool child sees a ride-on toy for the first time and they use their motor planning when they have the idea that they can sit and ride on it, they work out how to get on and off it without help and do it. When they do this, their body and brain uses unconscious memories of sensations to help them.

Sensory Processing Disorders

For most children, sensory processing develops as they do ordinary childhood activities. Motor planning happens naturally from the process and lets them respond in an adaptable way to sensations (noises, touch, things they see, movement). But for some children, sensory processing does not develop as efficiently as it should and they might have some difficulties with development, learning or behaviour.

Signs of Sensory Processing Differences

Not all children with learning, developmental, or behavioural difficulties have sensory processing differences because of an underlying sensory processing disorder. However, there are certain indicators that can indicate to a parent that their child might have a Sensory Processing Difference. They might react in this way to just one type of sensation (for example touch), or several sensations, or information from all of their senses. Here are a few of the possible signs:

Highly sensitive to touch, movement, sights or sounds.

They might be

- irritable, aggressive, or move away when they are touched

- avoiding the feel of certain clothes or foods,
- distractible
- scared of, or upset by ordinary movements, such as being lifted up, or playing on a swing or roundabout.

Under-reactive to information from their senses

In contrast to the highly sensitive child, an under-responsive child may

- try to get more intense sensory experiences, such as spinning or crashing into objects.
- Not notice pain
- Have no fear of danger when climbing high and jumping off
- Not know where their body parts are if they cannot see them.

Some children swing between being highly sensitive and under responsive, or may be highly sensitive to one type of sensation, for example touch, but not receive good information about where they are being touched, or cannot tell whether what they are touching is hard or soft, rough or smooth, square or round without looking at it. A child who is sensitive to sound may want the TV or music on all the time so that they cannot hear other noises such as people talking, or traffic outside. It give them predictability.

Very active or very lethargic

This child may be constantly on the move or may be slow to "get going" and become tired easily. Again, some children may swing from one extreme to the other.

Co-ordination problems

This child may have difficulties with big and smaller movements. Some children may have poor balance for their age, while others have great difficulty learning to do something new if it requires co-ordination of movements.

Delays in speech, language, movement skills, or academic achievement.

A preschool child may have speech and language delay and be slower learning some things along with other signs of poor sensory processing. A school-aged child may have problems with learning, even though they have normal intelligence.

Poor organisation of behaviour

This child may be impulsive or distractible and show a lack of planning when approaching tasks. Some children have difficulty adjusting to a new situation. Others may react with frustration, aggression, or withdraw from situations when they encounter failure.

Poor self esteem

Sometimes a child who experiences the problems mentioned above just does not quite feel right. A bright child with these difficulties may know that some tasks are more difficult for him or her than for other children, but they may not know why. This child may appear lazy, bored, or unmotivated. Some children soon work out ways to avoid those tasks that are hard for them or embarrassing because they cannot do them. When this happens, they may be called stubborn or troublesome. When a problem is difficult to see or understand, parents and children may blame themselves, causing family tension, poor self esteem and a general feeling of hopelessness..

Typically a child with a sensory processing disorder will show more than one of the above signs.

What you can do to help your Child's Sensory Processing.

- Recognise that it exists and that it plays an important role in your child's development
- Think about the ways in which your child might "feel" their sensations differently
- Recognise that every child is an individual with unique interests, responses and needs. No one "recipe" can tell you all the right activities for your child's development.
- Notice which sensations they seek and which they avoid - Work out your child's individual needs by watching how they respond when doing things, or when they are asked to do things, and how they behave in various situations. Notice the different ways in which your child is affected by the feel of things, if you touch them, by movement, sights, sounds, smells or heights. Sometimes fast movement may make a child more alert and may lead to them making more noises, or talking more. At another time, or for another child, the same movement may excite the child too much and make their behaviour disorganised or may frighten them. You must be ready to alter things based on how they react.
- Do not force sensations on a child, do not force them to go up high if they are scared, or to touch "messy" play if they don't like it. Having activities with the sensations that your child does not like out so that they can play with them **if they choose to**, is useful for developing sensory processing.
- Responses to sensations vary from child to child. For example, one child may want to be hugged a lot, while another may only want to be hugged when they ask for it.

- Your child's responses may vary from day to day and sometimes even from hour to hour.
- Think about the way sensations vary (for example noise levels, lighting levels, different types of movement on play equipment, different sensations from different foods and clothing), as well as your child's reactions, then you can guide your child to activities that will be most helpful to his or her development.
- Try keeping a record of how they behave, what happened and what they did before they were well behaved, what sensations were there (Lots of people? Lots of noise? Peace and Quiet? Ran around or bounced on a trampoline before), what happened at the time, and what happened after. When they behave differently while doing the same thing at another time, note that too. You can then begin to see patterns, for example, if he runs around for 15 minutes, he might be able to sit still for longer than if he hasn't had a run beforehand. She can cope with shopping if she pushes the trolley, but not if she doesn't push the trolley. Look at what is different on the two occasions and what sensations your child had or seemed to be reacting to.
- Think about the variety of body positions your baby experiences throughout the day. For example, your baby is put on their back to sleep to avoid cot death, but when a baby is lying on his or her tummy, they are getting different sensations than when on their back or side, these help them to learn to move and to have body control. Put them on their tummy for a little while in the day when you can be with them and keep a close eye on them, but not straight after a meal. If they do not like lying on the floor, let them lie on their tummy on your lap (making sure they will not fall off) with a toy next to you for them to look at or play with.
- Recognise and understand how your child interprets and is affected by different experiences. While some children may like light touch, others may find it irritating, painful or distracting. Similarly, some children may react badly to loud noises or certain types of sounds, or may have trouble ignoring background noises in order to attend to specific sounds (for example your voice). Some may react badly to heights and certain types of movement, while others cannot get enough of it.
- Recognise that your child's reactions to certain situations may be due to how they are perceiving their world and not necessarily a behavioural problem.
- Once you understand how your child perceives their world, you will be able to respond better to their needs and to help them cope by either adapting or avoiding certain situations. For example, children who are irritated by light touch often respond more positively to firm touch or deeper pressure. This is why hugging is calming for most children. Or for the child who has difficulty ignoring background noises to attend to a task, a special quiet place could be set up for activities needing more concentration.

- Look for Clues from Your Child - children often seek the types of sensations and experiences that their nervous systems need. If your child appears to be looking for sensory input, whether it is touch, movement, firm pressure, taste, sight or sounds, this may be a sign that a certain type of sensation is needed. If a child seeks a great deal of touch, movement, firm pressure, oral, visual or auditory stimuli, provide some of these sensations in their normal play activities. For example, if a child seems to want a lot of hugging and firm pressure, a parent might try games like tug-o-war, walking wearing backpacks or hide-and-seek under large pillows (making sure that they can breathe) or foam mattresses - all activities that provide deep body position sensations.
- Recognise Your Child's Abilities - think about the demands placed on your child to process sensation and respond to it. A child who enjoys movement and who has a good balance may be able to carry on imaginative conversations while swinging. A child who is scared of movement, however, may need to concentrate intensely just to maintain balance, so may not be able to talk and swing at the same time. Remember that one child may not process sensory information or respond to it as automatically as another.
- Sensory input can be a powerful force. It can "wake up" or increase alertness and activity level, or it can have the opposite, dulling down effect. Sensations can have a dramatic impact on the nervous system, especially for a young child.
- Whenever trying new activities, notice both the immediate and the long term effects on your child, as new or different sensory experiences can affect sleep, eating, bowel and bladder control, and organisation of their behaviour. A good rule is **only attempt normal play activities**.
- Involve Your Child in Activities - doing things themselves uses different brain power from having things done to them. By doing things they will develop sensory processing, but when things are done to them, there is a danger that too much sensation may be given and your child might not be able to let you know. So when planning new sensory and movement experiences, follow your child's lead, and do not impose sensations on them (for example, if your child doesn't like messy hands, don't make them play with things they don't like the feel of).

Adapted by S.Oliver from "A parent's guide to understanding sensory integration" by Sensory Integration International.

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Useful Books

Books stocked by Hastings Library, held in children's library parents section (can be requested via other libraries)

The Sensory Sensitive Child - practical solutions for out-of-bounds behavior
Karen A. Smith & Karen R. Gouze ISBN 0 - 06-052717-X

The Out-of-Sync Child Has Fun - Activities for kids with sensory integration dysfunction.
Carol Stock Kranowitz ISBN 0-399-52843-1

The Highly Sensitive Child - helping our children thrive when the world overwhelms them.
Elaine N. Aron ISBN 0-00-716393-2

Asperger Syndrome and Sensory Issues - practical solutions for making sense of the world.
Myles, Cook, Miller, Rinner, Robbins. ISBN 0-9672514-8-6

Other Useful Books not held by local libraries.

Living Sentionally, Understanding Your Senses
Winnie Dunn ISBN 9 781843 108719

101 Activities for Kids in Tight Spaces.
Carol Stock Kranowitz ISBN 0-312-13420-7

The Out-of-Sync Child - recognizing and coping with Sensory Integration Dysfunction.
Carol Stock Kranowitz. ISBN 0-399-52386-3

Raising a Sensory Smart Child - the definitive handbook for helping your child with sensory integration issues.
Lindsey Biel and Nancy Peske ISBN 0-14-303488-X

Too Loud, Too Bright, Too Fast, Too Tight - what to do if you are sensory defensive in an overstimulating world.
Sharon Heller ISBN 0-06-093292-9

1001 great ideas for teaching and raising children with autism spectrum disorders.
Ellen Notbolm and Veronica Zysk ISBN 1 - 932565-19-1