

# Sensory Sensitivities

Processing sensory information gives us feedback about the environment and ourselves. It allows us to make sense of the world around us and how to respond to it. Many people on the autism spectrum experience some kind of sensory sensitivity or sensory processing difference.

We all know about the five senses (touch, taste, sight, smell and hearing) however there are another two sensory systems we need to be aware of: the proprioceptive system and the vestibular system. The following chart will enable you to understand the functions of these systems.

| System                                 | Location                     | Function   |
|--|------------------------------|--|
| <b>Tactile (Touch)</b>                 | Skin                         | Helps us to assess the environment we are in and enables us to react accordingly. It relates to touch, type of pressure, level of pain and distinguishing temperature. |
| <b>Visual (Sight)</b>                  | Retina of eye                | Helps us to define objects, people, colours, contrast and spatial boundaries   |
| <b>Auditory (Hearing)</b>              | Inner ear                    | Informs us about sounds in the environment   |
| <b>Gustatory (Taste)</b>               | Chemical receptors in tongue | Informs us about different tastes – sweet, sour, bitter, salty, spicy. Can result in restricted diets as taste buds are extra sensitive.                               |
| <b>Olfactory (smell)</b>               | Chemical receptors in nose   | Informs us about smells in our immediate environment   |
| <b>Proprioceptive (body awareness)</b> | Muscles and joints           | Informs us where our bodies are in space and how they are moving.  |
| <b>Vestibular (balance)</b>            | Inner ear                    | Provides information on where our body is in space, its speed, direction and movement. It is fundamental in helping us to keep our balance and posture.                |

## Sensory sensitivities can be broken down into two main areas:

**Hypersensitivity (High sensitivity):** This is where too much sensory stimulation occurs and the individual can become averse.

**Hyposensitivity (Low sensitivity):** This is where too little sensory stimulation occurs and the person becomes sensory seeking.

Sensory sensitivities can vary greatly between individuals. It is important to develop an understanding of an **individual's** responses to sensory stimulation and offer strategies to address their sensory sensitivity/difficulties. In addition, as a child can fluctuate between hyper- and hyposensitivity, it is important to consider this when attempting to address sensory processing difficulties. The following resources will assist you when doing so and are aimed at helping you to identify possible sensory sensitivities. However, it is important to note it is always useful to obtain a full sensory assessment from a professional such as an Occupational Therapist.

| System                | Example of hypersensitive behaviour   | Examples of hyposensitive behaviour  |
|-----------------------|---|--|
| <b>Tactile</b>        | <ul style="list-style-type: none"> <li>• Touch can be painful and uncomfortable and some children may withdraw from aspects of touch. This can have a profound effect on relationships.</li> <li>• Only tolerates certain materials for clothing</li> <li>• Dislike of having anything on hands or feet</li> </ul>  | <ul style="list-style-type: none"> <li>• Holds others tightly</li> <li>• Has high pain threshold (pain/temperature)</li> <li>• Self harming</li> <li>• Enjoys heavy objects on top of them</li> <li>• Prefers tight clothing</li> </ul>  |
| <b>Visual</b>         | <ul style="list-style-type: none"> <li>• Distorted vision occurs, objects and bright lights can jump around</li> <li>• Fragmentation of images, as a consequence of too many sources of visual stimuli</li> <li>• Focussing on particular details (sand grains) can be more pleasurable than looking at something as a whole</li> <li>• Distracted by certain lighting</li> </ul>                       | <ul style="list-style-type: none"> <li>• May see things darker, lose features and lines</li> <li>• May concentrate on peripheral vision as central vision is blurred</li> <li>• Conversely, some say that a main object is magnified and things on the periphery are blurred</li> <li>• Poor depth perceptions – problems with catching or throwing</li> <li>• Flapping near eyes</li> </ul>   |
| <b>Auditory</b>       | <ul style="list-style-type: none"> <li>• Volume of noise can be magnified and surrounding sounds distorted and muddled</li> <li>• Inability to cut out particular sounds – difficulties concentrating</li> <li>• May have a lower hearing threshold which makes an individual particularly sensitive to auditory stimuli – hearing conversations in the distance.</li> <li>• Fingers in ears</li> </ul> | <ul style="list-style-type: none"> <li>• May not acknowledge particular sounds</li> <li>• Enjoys crowded noisy places</li> <li>• Bangs doors and objects</li> <li>• Makes own noise e.g. humming</li> </ul>  |
| <b>Gustatory</b>      | <ul style="list-style-type: none"> <li>• Some flavours and foods are too strong and overpowering</li> <li>• Certain textures also cause discomfort, some children will only eat smooth foods such as mashed potatoes or ice cream</li> <li>• Only eats bland foods</li> </ul>   | <ul style="list-style-type: none"> <li>• Preference for strong flavours – like very spicy foods</li> <li>• Eats everything e.g. grass, soil, materials. This is known as Pica</li> </ul>   |
| <b>Olfactory</b>      | <ul style="list-style-type: none"> <li>• Aversion to particular smells</li> <li>• Smells can be intensified and overpowering</li> <li>• Toileting problems</li> <li>• Dislike of individuals with distinctive perfumes or shampoos</li> </ul>   | <ul style="list-style-type: none"> <li>• Smells objects</li> <li>• May have no sense of smell and fail to notice extreme odours</li> <li>• May lick objects</li> </ul>   |
| <b>Proprioceptive</b> | <ul style="list-style-type: none"> <li>• Dislikes close proximity of others</li> <li>• Has difficulty with fine motor skills and manipulating small objects</li> <li>• Moves whole body to look at objects</li> </ul>   | <ul style="list-style-type: none"> <li>• Proximity – stands too close to others not knowing about personal space etiquette</li> <li>• Little awareness of hunger/pain/cold/needing the toilet</li> <li>• Difficulties with navigating rooms and avoiding objects (bumps into things)</li> <li>• Bumps into people</li> <li>• Poor muscle tone</li> <li>• A preference for deep pressure for example tight shoelaces or pushing their chin into people</li> </ul> |
| <b>Vestibular</b>     | <ul style="list-style-type: none"> <li>• Dislikes playground equipment (swing/slide etc)</li> <li>• Difficulties in activities which include movement (sport)</li> <li>• Difficulties in stopping quickly or during an activity</li> </ul>  | <ul style="list-style-type: none"> <li>• Need for rocking, spinning/swinging</li> <li>• Seeks opportunities for movement/ constantly moving/fidgeting</li> </ul>   |

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## Tool 2: Strategies to address need

| System                | Hypersensitivity  | Hyposensitivity  |
|-----------------------|---|--|
| <b>Tactile</b>        | <ul style="list-style-type: none"><li>Warn the child if you are about to touch them</li><li>Remember hugs may be painful rather than comforting!</li><li>Gradually introduce different textures</li><li>Allow individuals to complete activities themselves (e.g. hair brushing and hand washing) to allow them to regulate their sensitivity</li></ul> | <ul style="list-style-type: none"><li>Consider tight clothing e.g. leotards underneath clothing</li><li>Weighted blankets</li><li>Sleeping bags</li><li>Work with sand bag on lap</li></ul>  |
| <b>Visual</b>         | <ul style="list-style-type: none"><li>Reduce fluorescent lighting</li><li>Sunglasses</li><li>Create a workstation</li><li>Use blackout blinds</li></ul>   | <ul style="list-style-type: none"><li>Use resources which stimulate visual system e.g. light sticks</li></ul>  |
| <b>Auditory</b>       | <ul style="list-style-type: none"><li>Shut windows and doors to reduce external sound</li><li>Prepare the child for noisy places</li><li>Ear plugs/ ear defenders</li><li>Walkman/iPod</li></ul>  | <ul style="list-style-type: none"><li>Auditory Integration Therapy (see references)</li><li>Music therapy</li><li>iPod/walkman</li><li>Use visual cues to back up verbal information</li></ul>   |
| <b>Gustatory</b>      | <ul style="list-style-type: none"><li>Allow opportunities to taste lots of different things to aid sense development</li><li>Encourage children to 'clean out' mouth with water between mouthfuls</li><li>Puree foods</li><li>Use ice pops to desensitise mouth</li><li>Introduce very small bites of portions</li></ul>                                | <ul style="list-style-type: none"><li>Allow opportunities to taste lots of different things to aid sense development</li><li>Provide oral stimulation throughout the day, crunchy foods</li><li>Use vibration toys to stimulate the senses</li></ul>   |
| <b>Olfactory</b>      | <ul style="list-style-type: none"><li>Use unscented detergents or shampoos</li><li>Refrain from wearing perfume</li><li>Make environment as fragrance free as possible</li></ul>  | <ul style="list-style-type: none"><li>Use strong smelling objects as rewards</li><li>Use strong smelling objects to distract from inappropriate strong smells (faeces) for example scented playdough</li><li>Create a book of scents - match pictures to scented cotton wool for example lemon, coffee etc</li></ul> |
| <b>Proprioceptive</b> | <ul style="list-style-type: none"><li>Threading activities</li><li>Lace boards</li><li>Allow the child to stand at end of line when lining up</li><li>Allow the child to sit on a stool instead of carpet</li></ul>   | <ul style="list-style-type: none"><li>Position furniture around the edge of the room to make navigation easier</li><li>Put coloured tape on floor to indicate boundaries</li><li>Use arms length rule (you must be at least an arms length away from someone when speaking to them)</li></ul>                        |
| <b>Vestibular</b>     | <ul style="list-style-type: none"><li>Break down activities into small steps</li><li>Use visual clues for finish lines or stops in movement activities</li></ul>  | <ul style="list-style-type: none"><li>Encourage activities which develop the vestibular system – swing, roundabout, rocking horse, see-saw, dancing</li></ul>  |

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