

## **South Gloucestershire Autism Toolkit - Appendix 1 – Sensory Integration**

### What do we mean by sensory integration?

- We do it automatically.
- It is our way of understanding the world around us.
- It happens in the brain.
- When it works, we respond appropriately to our environment.
- It makes the world predictable and enables us to feel comfortable and safe.

### How does sensory integration occur?

- In a typically developing child, sensory integration occurs as part of the normal development process.
- Sensory integration is the crucial foundation upon which more complex (e.g., abstract) learning and development occurs.
- We need sensory skills to perform all of the tasks in our everyday life.

### What are the eight senses?

<https://youtu.be/vlelxmvelHs>

There are eight senses.

The senses we are more familiar with are:

visual, auditory (sound), taste (gustatory), smell (olfactory), touch (tactile)

The less familiar senses are:

vestibular (movements/balance), proprioception (body awareness), and interoception (internal organs)

- The vestibular system controls posture and balance (body movements)
- Proprioception is the awareness of where your body is in space (body awareness) and is also linked to how movements are graded
- Interoception is how you sense your internal organs/systems, e.g., awareness of your breathing, hunger, thirst, temperature or your heartbeat and is closely linked to emotions.

It is important to understand how the autistic child you are working with is integrating and processing their sensory systems. To help you analyse the child's sensory processing needs please use the green and pink sensory analysis form – Appendix 2. If you can, fill it in with parents and carers so you get an all-round picture.

Once you have completed a sensory analysis you can then begin to put together some sensory strategies for the child or young person that are appropriate for their age and developmental stage.

What are hyper reactive (over reactive) versus hypo reactive (under reactive) states?

Some children experience extremes of each sense, and we describe this as being **hyper**, meaning over or in excess or **hypo** meaning under or below.

<b>Hyper (Over) Reactive</b>	<b>Hypo (Under) reactive</b>
<b>Visual:</b> too acute, noticing the tiniest things, disliking bright lights, looking down a lot, frightened by flashing lights.	<b>Visual:</b> difficulties figuring out where objects are, runs their hands around the edges of objects to work out what it is, attracted to light, love bright coloured objects.
<b>Sound:</b> light sleeper, frightened by sudden noises and unpredictable sounds (school bell), often cover their ears.	<b>Sound:</b> seeks out sounds, likes noisy play/environments, often creates sounds themselves. Often inappropriate voice volume
<b>Taste/Smell:</b> can't tolerate smells, runs from smells, insists on wearing the same clothes, smell/taste of foods often too strong, usually poor eater, gags easily, fussy eater.	<b>Taste/Smell:</b> chews and smells everything, mouths and licks objects, sometimes not things you eat.
<b>Touch:</b> dislikes hugs, slight touches make them anxious, issues washing hair, cutting nails, refuse to wear certain clothes.	<b>Touch:</b> high pain threshold, don't seem to feel pain or temperature, prone to self-injuries, bite their hand, head bangs, like pressure and tight clothing.
<b>Body movements</b> (vestibular): difficulties changing direction or walking on an uneven surfaces, scared of movement, feels disorientated after spinning and jumping or head tilting, anxious when feet leave the ground.	<b>Body movements</b> (vestibular): enjoys and seeks movement, likes spinning, often rocks back and forth, turning upside down.
<b>Body awareness</b> (proprioception): not a difficulty usually good at sports and great coordination.	<b>Body awareness</b> (proprioception) difficulty knowing where their head/body is in space., not attuned to their body sensations e.g., hunger, can appear floppy, lean into people, bump into people and things
<b>Interoception:</b> sensitive to temperature, pain, discomfort, notice heartbeat, breathing, often hungry, or needing the toilet	<b>Interoception:</b> not aware of temperature, not aware of needing to go to the toilet, does not drink enough

On the green and pink form – Appendix 2 - the green column represents hypo reactivity, and the pink column represents hyper reactivity.

It is entirely possible for a child to have both hypo and hyper reactions within the same sense, and this can be linked to anxiety. They may also be clearly either hypo or hyper in one sense. Each child has an individual sensory profile.

## What Activities might help?

<p><b>CALMING</b> Children who are <b>hyper reactive</b> need calming and organising activities</p>	<p><b>ALERTING</b> Children who are <b>hypo reactive</b> need alerting and organising activities.</p>
<p><b>Visual</b></p> <ul style="list-style-type: none"> <li>• Reduce visuals</li> <li>• Turn off the light</li> <li>• Cold compress to eyes</li> <li>• Breaks between highly visual tasks</li> </ul>	<p><b>Visual</b></p> <ul style="list-style-type: none"> <li>• Kaleidoscope</li> <li>• Bright well-lit space</li> <li>• High contrast visuals</li> <li>• Stimulating visual resources</li> </ul>
<p><b>Sound</b></p> <ul style="list-style-type: none"> <li>• Ear defenders</li> <li>• Listening to calm music with large ear phones</li> <li>• Listening to white noise</li> </ul>	<p><b>Sound</b></p> <ul style="list-style-type: none"> <li>• Listening to music with rhythm and beat</li> <li>• Use quick high tone voice</li> <li>• Sound lotto game</li> </ul>
<p><b>Smell/Taste</b></p> <ul style="list-style-type: none"> <li>• Familiar favourite smell available on cloth</li> <li>• Warning of any new/unexpected smell</li> <li>• Allow to look before having to try</li> </ul>	<p><b>Smell/Taste</b></p> <ul style="list-style-type: none"> <li>• Guess the smell game</li> <li>• Allowing opportunities to smell if appropriate</li> <li>• Chewy top for pencil</li> <li>• Crunchy snack breaks</li> <li>• Blow football (straw/ping pong ball)</li> </ul>
<p><b>Touch</b> (never enforce any touch activity)</p> <ul style="list-style-type: none"> <li>• Verbal warning for touch</li> <li>• Do proprioceptive activities as preparation before touch</li> <li>• Use deep touch with flat hand not light touch</li> </ul>	<p><b>Touch</b> (never enforce any touch activity)</p> <ul style="list-style-type: none"> <li>• Fidget toys</li> <li>• Feely bag</li> <li>• Theraputty</li> <li>• Massage</li> </ul>
<p><b>Body movements/ Vestibular</b> (always important to include with proprioception)</p> <ul style="list-style-type: none"> <li>• Slow rocking</li> <li>• Close to the ground stepping and balancing</li> <li>• Soft play</li> </ul>	<p><b>Body movements Vestibular</b> (always important to include with proprioception)</p> <ul style="list-style-type: none"> <li>• Movement breaks/programmes e.g., sensory circuits</li> <li>• Climbing on play equipment</li> <li>• Swinging, hanging</li> <li>• Move and sit cushion</li> </ul>
<p><b>Body Awareness /Proprioception</b> (compression/weight/impact/push/pull)</p> <ul style="list-style-type: none"> <li>• Move heavier items in the class</li> <li>• Carrying books/bags e.g., to office</li> <li>• Jumping activities or on a trampoline</li> </ul>	<p><b>Body Awareness/Proprioception</b> (compression/weight/impact/push/pull)</p> <ul style="list-style-type: none"> <li>• Helping set up heavy P.E equipment</li> <li>• Pulling weighted items by rope</li> <li>• Climbing a rope</li> <li>• Weighted lap pad</li> </ul>
<p><b>Interoception</b></p> <ul style="list-style-type: none"> <li>• Deep pressure hugs</li> <li>• Drinking cold water from a sports bottle</li> </ul>	<p><b>Interoception</b></p> <ul style="list-style-type: none"> <li>• Deep pressure hugs</li> <li>• Squashing and compression activities</li> <li>• Body brushing</li> </ul>

## Sensory Play for Early Years

From birth, children are exploring their senses and processing new information. They begin to make sense of the world around them as they grow through the exploration of new textures, materials and resources. Sensory play is a valuable way of engaging children in activities that will heighten their senses and enrich their learning. Sensory play encourages discovery and independent thinking, as well as inspiring imagination and creativity. Sensory play can benefit a child's development and learning.

Sensory play includes activities that stimulate children's senses such as sight, sound, smell, taste or touch. By providing this type of activity children will learn more about the world around them in a natural way, through their senses. Such activities contribute to brain development by stimulating the neurons in the brain to make connections and help with development in all areas of learning.

As children explore sensory materials, they develop their sense of touch. This lays the foundation for learning other skills, such as identifying objects by touch and using fine and gross motor skills. These motor skills can be refined through moulding, scooping, splashing and shaping objects.

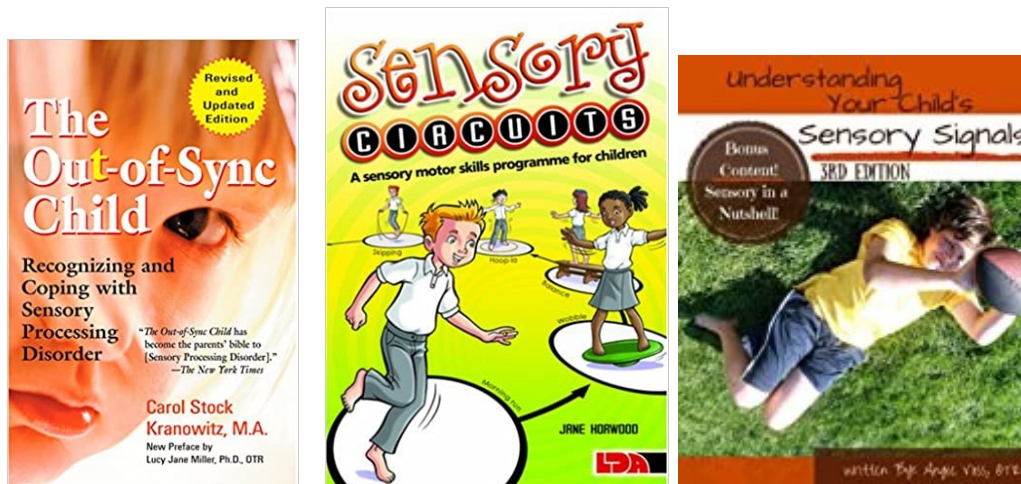
Sensory experiences can be calming and therapeutic for young children and help them work through their emotions, anxieties, and frustrations. All children will benefit from sensory experiences and should be accessible for all.

[Sensory Activities - Children's Sensory Therapy. Occupational Therapists in the Midlands \(childrensensorytherapy.co.uk\)](http://childrensensorytherapy.co.uk)

[List of Sensory Play Activities & Ideas | Learning 4 Kids](#)

[Top 10 Sensory Play Activities & Ideas | EYR \(earlyyearsresources.co.uk\)](http://earlyyearsresources.co.uk)

## Sensory resources for school age pupils



[Sensory Integration Education Home](#) - courses and training on sensory integration

[Home | Interoception | Interoception Activities | Kelly Mahler \(kelly-mahler.com\)](#)

Sensory Strategies by Corinna Laurie – an excellent book that seems out of print, but you may be able to loan or find a second - hand copy.

## **What to do if you still have concerns:**

**Step 1:** Have a look at the following links:

<https://www.griffinot.com/griffin-occupational-therapy/>

<https://www.nhsggc.org.uk/kids/resources/>

**Step 2:** For more targeted advice:

<https://cchp.nhs.uk/cchp/explore-cchp/childrens-occupational-therapy/services-bristol-south-gloucestershire>

Therapy Sensory Advice Helpline CCHP

The number is 07971 035385 and the line is open every Thursday morning for phone ins between 8am-9.30am and there are 4 appointments available when the Occupational Therapist will call back, 9.30am, 10.15am, 11am and 11.45 am.

When you phone in between 8-9.30am details are taken and you are then given an appointment time for the therapist to call back.

**Step 3:** Following repeated advice from Helpline or recommendations from Helpline Therapist, if more specialised advice is needed:

<https://cchp.nhs.uk/cchp/explore-cchp/childrens-occupational-therapy/services-bristol-south-gloucestershire>

Fill SPE (Single Point of Entry) form for referral to Occupational Therapy including functional difficulties.

This appendix has been put together by Occupational Therapists, Educational Psychologists, the Early Years Team, Integra and Autism Specialists within South Gloucestershire.