

I acknowledge using Grammarly (<https://grammarly.com/>) on 13th May to check my already completed work. This program was on my computer and automatically prompted suggestions on Microsoft Word. I acknowledge using Copilot ([Microsoft Copilot in Bing](#)) on the following dates with the following prompts.

AI Prompts on 07/05/2025

- NHS resources with aims towards Sensory Processing Disorder
- Studies carried out in recent years regarding Sensory Processing Disorder

AI Prompts on 10/05/2025

- Resources and intervention available to parents and caregivers supporting children with Sensory Processing Disorder.

I do not hold any drafts of my work before using AI as i did not write anything before these prompts. AI prompts allowed me to access alternative resources.

I confirm that I have not presented any AI-generated text as my work.

Critical Evaluation of Sensory Processing Disorder.

Hayley's introduction: I will be presenting this evening on Sensory Processing Disorder. I have chosen this because it sits closely with me as my son is living with SPD difficulties and on his SPD journey. A journey we continue to learn and grow with, and this evening is for me to share awareness of an additional learning need without an overarching neurodevelopmental diagnosis.

Sensory Processing Disorder (SPD) is a neurological condition that affects how the brain receives and responds to sensory information (Abraham et al., 2015). According to NHS Lanarkshire (n.d.), SPD occurs when our brains have difficulty processing sensory input efficiently, leading to confusion and feelings of overwhelm and frustration. Sources such as the STAR Institute for Sensory Processing (no date) state that SPD can exist on its own but often co-occurs with other conditions such as autism and attention deficit hyperactivity disorder (ADHD).

I'll begin with addressing the senses. Our senses are typically made up of the five well-known senses:

- Sight
- Hearing
- Touch
- Smell
- Taste

These 5 senses seamlessly integrate with specialised organs and neural pathways, which work together to shape our perception of reality (Fierce, no date).

Fledglings (no date) shares that there are three additional senses, these are the vestibular system, which acts as our internal GPS, helping us maintain balance, coordination, and spatial awareness, which contributes to overall well-being. Our proprioceptive system which Brown (2015) describes as the system providing insight into our body's movements and position in space, enhancing motor coordination, posture, and physical confidence. Proprioception enables precise control over objects like pencils, buttons, spoons, and combs, allowing the hand to manipulate them skillfully (Berkshire Healthcare NHS Foundation Trust, no date). Lastly, the interoceptive system regulates internal sensations like hunger, temperature, and emotional states, allowing us to better understand and respond to our body's needs for a more holistic approach to health (Mahler, 2016).

Child Mind Institute (2025) suggests that typically, children exhibit extreme behaviours when trying to process a sensory situation. For example, a child may scream when their face gets wet, whether this is during daily hygiene or play, a child may become highly distressed and begin screaming. This reaction occurs when sensory processing signals do not align with neurological responses, leading to distress or a perceived negative reaction based on past experiences.

Furthermore, Holliday (2022) shares awareness of children experiencing sensitivity to clothing, leading to a refusal to wear certain fabrics, causing them discomfort. Alternatively, a child may present with sensitivity to touch that can provoke anxious reactions. However, when the touch is deep pressure, such as hugs, it can be soothing and provide comforting sensory input, performing sensory regulation.

Mouton *et al* (2021) also highlight that children may face challenges with posture and coordination that may cause inefficiencies in their muscle and movement systems, making certain physical activities difficult. This additionally leads to sensory overload, affecting their ability to focus and engage effectively (CAMHS North Derbyshire NHS, no date).

How does it present in children?

The way SPD presents varies person to person, depending on how the brain interprets sensory input and how an individual reacts to different stimuli (Autism Help UK, 2021) .

Hypersensitivity occurs when the brain processes minimal sensory input, causing certain sensations to feel weak or dulled (Broad Institute, 2023).

- One example might be that a person may not perceive a spice or flavours of food as intensely as another person and might seek even stronger flavours for stimulation.

Hyposensitivity occurs when the brain processes excessive sensory input, making certain sensations feel overwhelming (Building Blocks Therapy, 2025).

- To lead on from the example just given, hyposensitivity would be that a child might gag at strong-smelling flavours and struggle with textures of food.

Some children experience hypersensitivity to touch, sound, or movement, making sensory processing challenging (Miller, 2014). In addition, Oxford Health NHS Foundation Trust (2014) highlights the importance of distinguishing, adapting, and responding appropriately to sensory input both physically and emotionally. Furthermore, Kranowitz (2016) suggests

that children may exhibit hypersensitivity, hyposensitivity, or a combination of both across different senses, which can hinder learning, social engagement, and emotional regulation.

How is it identified and assessed?

SPD requires a referral to the neurodevelopmental single point of access and can be made through various trusted sources. These include schools, nurseries, clinical professionals that sit within the University Health Board (UHB), and GPs. Cardiff and Vale Young Neurodevelopmental Service (2025) identifies that referrals help ensure that children and young people who may require neurodevelopmental assessments or specialised support can access the appropriate services in a timely manner.

A centralised referral pathway serves as an important entry point for individuals experiencing developmental differences, sensory processing challenges, or other neurodevelopmental concerns. The goal is to provide early intervention and coordinated care, facilitating access to resources that promote well-being, development, and overall quality of life. (CAV Young Neurodevelopmental Service, 2025).

In the UK, SPD is not officially recognised as a standalone medical or psychiatric condition, meaning there are no formal diagnostic labels or criteria for its identification (Cerebra, 2024). Nevertheless, Manchester University NHS Foundation Trust (2018) states that SPD is typically identified through observations and feedback from professionals, such as occupational therapists, as well as input from families. These insights help form a comprehensive assessment of the child's sensory challenges and guide the referral process for further evaluation or intervention.

SPD is not always classified as a formal disability, but rather as a condition affecting how the brain processes sensory input. Sensory Line (no date) also reports that SPD has no single identified cause, but research suggests biological, genetic, and environmental factors contribute to its development. These influencing factors include heredity, premature birth, and psychosocial elements such as stress or trauma during early development.

In Wales, in supporting the diagnosis of SPD, Occupational Therapists use the Sensory Integration and Praxis Tests (SIPT) tool, however, only if they are trained in sensory integration assessment. It is a standardised assessment that helps the professional evaluate sensory processing and motor planning difficulties in children. This tool helps understand how a child perceives, organises, and responds to sensory input, which is crucial in identifying SPD (Autism and ADHD Centre, no date).

Barriers

Environmental Barriers

Woolner (2015) addresses that when school environments vary, the environmental barriers change and therefore may cause children with SPD to experience a sense of hyposensitivity to sound, light, temperature and smells, leading to meltdowns and potentially withdrawing from their learning opportunity.

British Educational Research Association (BERA) (2021) suggests that to overcome environmental barriers in education, there needs to be sustainability in leadership, student involvement, accessible learning spaces, and teacher development. BERA also expresses the need to create inclusive environments to support engagement and well-being. Furthermore, Parry and Metzger (2023) discuss that sometimes there are other barriers in creating adaptable learning environments to support SPD learners because of professional development not being adequate or up to date to be able to create effective learning environments. Other solutions can be building a sensory-friendly classroom designed with individualised support that is targeted to reduce sensory overload. Some main strategies include modifying lighting, noise levels, and classroom layouts to create inclusive environments that enhance engagement and well-being (Critz *et al*, 2015).

This leads me on to **Curricular Barriers:**

SPD can make it difficult for children in a classroom to fully engage in learning due to challenges with concentration, sensitivity to textures, and difficulty with transitions that can lead to overstimulation and can result in the need for excessive movement to help a child cope (Humber NHS Foundation Trust, 2025). The Welsh Government (2021) emphasises that without planned and structured transitions, individuals with SPD may struggle to understand expectations and upcoming changes, increasing their anxiety. Persistent anxiety can further impact a child or young person's ability to process information, engage with peers, and complete tasks, often leading to avoidance behaviours and reduced school engagement (UK Government, 2014).

This being said let's explore the Strategies

McMahon *et al* 's (2019) study explores the connection between childhood SPD and anxiety disorders in adulthood. Researchers found that individuals with SPD symptoms in childhood were more likely to develop anxiety later in life. In addition, it highlights that emotional dysregulation is a key factor in this progression, suggesting that difficulties in

managing emotions may mediate the relationship between childhood SPD and adult anxiety disorders. These findings target the importance of early intervention to support emotional regulation in children with SPD.

Therefore, one strategy I'd like to share is Emotional regulation.

Emotional regulation plays a supporting role with SPD by helping the child learn to manage and understand overwhelming sensory experiences and emotional responses. We know that SPD causes heightened sensitivities in various environments, which therefore result in children struggling, leading to frustrations, anxiety or shutdowns. It is suggested that by introducing self-regulation techniques, individuals can develop coping mechanisms that can decrease those heightened challenges (Delisie *et al*, 2023). According to South Humber NHS Foundation Trust (2021), practicing mindfulness deep breathing enhances self-awareness, reduces stress, and improves overall emotional balance.

Additionally, Autism Empowerment (2013) suggests sensory tools like fidget toys, noise-cancelling headphones, and weighted blankets can help reduce sensory overload. Once these strategies are implemented, individuals with SPD can experience better motivation, improved behavioural outcomes, and a greater ability to navigate daily interactions with confidence and emotional security. Clinic Press (2025) suggests other self-regulating techniques or behaviours like tapping, fidgeting and pacing help manage sensory input.

Another strategy to explore would be Sensory Integration Therapy

Sensory integration therapy was developed in the 1970s by occupational therapist Jean Ayres, aimed primarily at children displaying SPD difficulties. It is a therapy that is play-based and often incorporates equipment like swings, trampolines, and slides to engage the child's senses in a structured, supportive way. It also includes calming techniques such as deep pressure, brushing, weighted vests, and swinging, which may help reduce anxiety (Academy of Paediatrics (no date).

The Royal College of Occupational Therapists (RCOT) (2025) suggests that occupational therapists working with children and young people using sensory-based interventions must establish clear, measurable goals to effectively track outcomes. When implementing deep pressure therapy, the objective is to enhance self-regulation, reduce anxiety, and improve attention and engagement in daily activities.

By achieving measurable outcomes, individuals may develop greater tolerance for sensory-rich environments, experience smoother transitions with reduced distress,

reinforce positive behaviours, and ultimately engage more comfortably in daily experiences (Play On Paediatric Therapy, 2023). Furthermore, Cardiff University (2025) also identifies that sensory integration therapy reduces distress, improves concentration, develops social interaction and is associated with enhanced behavioural regulation, adaptive skills, and improved daily functioning, making it a valuable intervention for children experiencing sensory challenges.

Conclusion

Exploring SPD has been insightful, highlighting its unique presentation and the challenges it can bring. However, with effective interventions and professional support, individuals experiencing SPD can confidently express their preferences and perspectives, allowing them to engage in meaningful daily activities that matter both to and for them. I welcome any questions you may have.

Question one: Are you able to provide any examples of how the interoception system presents in a child and how we can identify this?

Of course, interoception is the body's internal sensory system, helping us recognise signals like hunger, thirst, and the need to use the toilet. Some children struggle with this awareness, leading to difficulties in eating regularly or maintaining hydration. Similarly, interoception challenges can affect toileting, as children may not recognise bodily cues, resulting in holding urine, recurrent infections, or incontinence. Understanding and supporting interoception can help children respond appropriately to their body's needs (Koscinski, 2018).

A resource to follow it for parents and caregivers in supporting this 8th sense is Kelly Mahler, [Getting Started - Interoception for Parents and Caregivers | Kelly Mahler](#)

Any other questions?

Question two: What type of interventions or resources are effective in managing children's sensory challenges in daily transitions?

As stated earlier, the Welsh Government (2021) suggests that transitions, no matter how small, need to be structured and well planned. Typically, interventions in support of children with transition are usually supported with sensory passports, inclusive of visual aids or social stories.

Now and next visual time schedules work well with this. For example, Jonny will need to do 10 jumps on the trampoline, then get his shoes on and collect his lunch box before rotating on the sensory swing 5 times to the left and 5 times to the right. Jonny will have pictures of his sensory equipment for regulation and the task asked of him to complete in an order of structure.

It is also important to offer a child freedom of choice in their visual timetables, which incorporate the United Nations Conventions on the Rights of the Child (UNCRC) Article 12, a child's right to express their views on matters that are affecting them.

For further information regarding sensory transitions, I strongly suggest Growing Hands-On Kids [Child Behavior & Sensory Processing Resources for Parents & Teachers](#), Healthier Together NHS [Sensory Processing | Safety and Prevention - Child 1 to 5 years | Healthier Together](#) and Sandwell and West Birmingham's NHS [Childrens-Therapies-Sensory-Processing-Resource-List.pdf](#), which have excellent resources and information for parents, teachers and professionals. Which, again, I am happy to circulate at the end of this evening's webinar. If there are no further questions, I am excited to introduce the next speaker, Elin. Elin, over to you.

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