

In this Spotlight series, Tourettes Action is focusing on treatments and specific clinical issues in the treatment and understanding of TS

# SPOTLIGHT

## on...Sensory Processing Disorder



**Q&A with OT and SI practitioner,  
Lucy Bates and Speech and  
Language Therapist, Natalie  
Morris**



Tourettes Action interviewed Lucy Bates and Natalie Morris to find out more about the relationship between sensory processing disorder and Tourette Syndrome.

### What is SPD, and what are typical symptoms?

Sensory Processing Disorder, Sensory Integration difficulties or Sensory Processing Difficulties are interchangeable terms to describe a collection of symptoms. We have eight senses; taste, touch, hearing, vision, smell, proprioception (body awareness), vestibular (movement) and interoception (internal sensations such as thirst, hunger, pain). Information from these senses is processed by the brain and used to make sense of the environment around us. This information forms the basis of all of our actions and has strong links to our emotions and responses to certain stimuli.

Sensory processing disorder occurs when the information from the senses is not processed and organised effectively within the brain. There is nothing wrong with the senses themselves, for example sensory processing disorder won't be improved by wearing corrective glasses or a hearing aid. As human beings we all have sensory nervous systems and we

all process sensory information differently. Sensory processing disorder occurs when the differences in how the sensory information is processed has an effect on day to day life and that individual's ability to function in their environment.

Symptoms of individuals with sensory processing disorder vary significantly from individual to individual, environment to environment and even day to day. Typically, difficulties are classified into four broad categories: sensory seeking, sensory sensitive, sensory avoiding and registration difficulties. These can be classified further by different senses, for example being sensory seeking in our movement sense or sensory sensitive in our hearing sense. Sensory seeking individuals may struggle to sit still, seeking lots of additional movement, may need fiddles to occupy their hands, seek out strong tastes or smells, spin or seek out fast movement experiences.

Sensory sensitive individuals may present as being upset or overwhelmed in environments such as

busy classrooms and shopping centres. They may find activities such as tooth brushing, hair cutting or bathing challenging or upsetting.

**How is someone diagnosed with SPD? Are there diagnostic tests and who is qualified to make a diagnosis?**

SPD is mainly diagnosed through a mixture of observations of the individual in different environments for example home, school/nursery. Discussions should be had with the people that work and care for the individual and with the individual themselves about how they react in certain situations. There are a variety of questionnaires that can also be used to aid with diagnosis. The Sensory Integration Praxis Test (SIPT) is also used. Only professionals that have had postgraduate training in sensory integration are qualified to make a diagnosis of SPD.

**Is there a typical age when symptoms start to show up?**

Our sensory systems are developing before we are born. Difficulties processing sensory information can be present from birth however as the child gets older and is exposed to different situations and experiences symptoms can begin to show.

Sensory processing difficulties often become more apparent when a child starts school and extra demands are being placed upon them. These often look like difficulties with attention control and can sometimes be misinterpreted as behaviour difficulties. We often say, 'see behaviour, think sensory'.

**Can SPD affect adults as well as children?**

As we all have sensory systems difficulties processing this information can be evident all the way through the lifespan. As we get older individuals may develop strategies to help manage their sensory needs or avoid sensory experiences they find uncomfortable, therefore the issues may not be so apparent.

**How prevalent is SPD amongst children**

According to a study by Dr Lucy Jane Miller, 1 in 20 children have sensory processing disorder. This figure

was taken from the Sensory Processing Disorder website in May 2018.

**Can you explain why individuals with Tourette Syndrome (TS) might sometimes experience SPD symptoms?**

As we all have sensory systems we are all susceptible to processing difficulties. However recent research with young people who have Tourette Syndrome have suggested there is a link to the hypersensitivity of some sensations and this is linked to the tics.

Misophonia is a feature of sensory sensitivity which elicits immediate negative physiological responses to certain sounds that most people don't seem to notice. ([misophonia.com](http://misophonia.com)) Children with sensory sensitivity often present with emotional distress and anxiety associated with sounds which can lead to sensory overload. This overload is associated with meltdowns and heightened states of arousal. These can link to increased tic severity

Up to 85% of people with TS will also experience co-occurring features and conditions, such as ADHD, OCD and ASD. SPD falls within this umbrella of neuro-developmental disabilities. There are lots of cross-overs between Tourettes and SPD, and it can sometimes be difficult to separate the two. Recent research from Dr Kathryn Dyke has shown that physical activity reduces tics. Carefully planned physical movement breaks can also help modulate the sensory system and therefore help people manage their sensory processing difficulties.

**Can SPD be a barrier to learning?**

If SPD is impacting upon an individual's ability to achieve a calm alert state then yes it can impact upon their ability to focus on what is going on around them, process information and ultimately learn. Most of us process sensory information without thinking about it and we are able to filter out unnecessary sensory stimuli in order to go about our day to day tasks. Individuals with sensory modulation difficulties are unable to filter out unnecessary information effectively so are easily distracted and find focusing on activities difficult. Some individuals manage to suppress their sensory needs in order to "fit in" with their peers.

This can be exhausting and therefore they experience emotional overload.

### **How else might SPD be problematic for someone?**

Sensory processing affects everything we do from getting up in the morning to dressing to sleeping to eating. It is the basis for all of our functioning as human beings. If an individual has SPD then it can affect every aspect of their lives from socialising with others, to tolerating the smells of food to certain types of clothing.

### **What types of treatment are available for SPD – can you explain how they can help?**

There are a wide range of different treatment options available. There are programmes available where individuals can learn about the senses and how to then adopt strategies to help manage them. A “sensory diet” is a selection of different activities to be completed at different times of the day to help manage sensory needs. Individuals can also have therapy using a SI fidelity framework as developed by Dr Jean Ayres. All treatment provided for SPD should be done with a practitioner who has the relevant training and experience.

### **Do you have any top tips to support people with SPD?**

It really depends on the individual. What works for one person may not work for someone else. Firstly, it is about education of the individual themselves if they are able, their carers and people who support them be that teachers or employers etc. If the individual is aware that they have sensory needs, then they can explain this to others and try to develop strategies to help them manage and feel better. This may be working in a quieter environment if they struggle to process information if there is lots of background noise or having regular movement breaks if they struggle to sit still. If sensory processing difficulties are impacting upon an individual significantly a full assessment by a suitable qualified professional is the best option.

### **About Lucy Bates**

Lucy qualified as an Occupational Therapist in 2005 after studying at the University of Northampton. Since qualifying Lucy has specialised in Sensory Integration and is now an accredited Sensory Integration practitioner. She currently works fully in independent practice with a range of children and adolescents, across a range of settings.

### **About Natalie Morris**

Natalie has an undergraduate degree in Psychology and qualified as a Speech and Language Therapist at University College London in 1999. Natalie runs an independent multi-disciplinary children’s therapy service in the Midlands. She specialises in assessing and treating the often hidden difficulties that effect children and adolescents with neuro-developmental disabilities.

Lucy and Natalie work as part of a multidisciplinary team at Integrated Therapy Solutions

[www.integratedtherapysolutions.co.uk](http://www.integratedtherapysolutions.co.uk)

If you have questions or comments please contact [Dr Seonaid Anderson](#), Research manager at Tourettes Action.

## **USEFUL ORGANISATIONS**

[www.sensoryprocessingdisorder.com](http://www.sensoryprocessingdisorder.com) – Information, website links and resources for parents

**Sensory Integration network UK** [www.sensoryintegration.org.uk](http://www.sensoryintegration.org.uk) – Sensory Integration training courses for parents and professionals

If you have questions or comments please contact us:

**Helpdesk phone:** 0300 777 8427

**Helpdesk email:** [help@tourettes-action.org.uk](mailto:help@tourettes-action.org.uk)