

# Sensory Processing in Children

**Sensory processing relates to the way our brain manages the information received from our sensory organs to create an appropriate response to incoming stimuli.**

Our senses include 5 external senses: touch, taste, smell, hearing, and sight. Two additional internal senses include proprioception, which gives us body awareness and a sense of the movements and positions of our body, and vestibulation, which gives us a sense of balance and motion.

## Who Is Affected by Sensory Processing?

One in 6 children have sensory processing difficulties. In specific populations, the prevalence is estimated to be as high as 80% to 100% and includes children with autism spectrum disorder or who have a history of prematurity, fetal alcohol syndrome, or Down syndrome, just to name a few.

## What Happens When a Child Has Sensory Processing Difficulties?

A child with sensory processing difficulties can be overresponsive or underresponsive to a particular sensory input. For instance, in children who are overresponsive to loud noise or bright lights, the noise and light that is tolerable to others is too much for them, and they respond by covering their ears and squinting their eyes. In contrast, those who are underresponsive to sound may present as children who do not turn to important sounds (for instance, name being called) or have intense rocking and swaying for those who are underresponsive to the proprioceptive and vestibular input. This is also children who do not feel pain or seek out extra tactile input via touching of objects in their environment. They can also have sensory defensiveness manifested as, for instance, intolerance to clothing tags or certain food textures. Children with sensory processing difficulties can also have frequent meltdowns (crying, screaming, kicking, collapsing, having self-injurious behavior, or aggression) that can potentially interfere with daily functioning and their ability to learn.

## What Can Be Done to Prevent Sensory Overload?


If you suspect that a child is in sensory overload, it is important to use simple, specific, and concrete language. Always use a quiet and calm voice. If the triggers are known, it is critical that parents take a proactive vs a reactive approach. To be reactive is to respond to a need when the child is already in trouble, for instance, calming a child who is already in full-blown sensory overload. To be proactive is to anticipate the sensory overload and take measures to prevent the overload from happening in the first place. Use sensory tools such as noise-cancelling headphones for those with noise sensitivities or sunglasses for those with light sensitivities. Write social stories that

tell the encounter in first-person language to allow the child to have a sense of what will happen before it happens.

## What Should You Do If You Suspect That Your Child Might Have Sensory Processing Difficulties?


Keep a sensory diary of what the triggers appear to be for the sensory overload. You will want to call your pediatrician, who will ask you questions related to triggers and events surrounding the sensory overload. You might be referred to a developmental pediatrician or an occupational therapist for further evaluation and management.

**Sensory Processing**  
Children with sensory processing challenges can be either overly sensitive or desensitized to a particular type of sensory input. This can have a negative effect on mood, the ability to perform daily functions, and learning.



**Preventing Sensory Overload With Your Child**

- ▶ Keep a diary of your child's behavior to identify sensory overload triggers
- ▶ Be proactive to anticipate and prevent sensory overload
- ▶ Use a quiet and calm voice when talking to your child
- ▶ Use appropriate sensory-control tools such as noise-cancelling earphones and sunglasses



### FOR MORE INFORMATION

<https://www.healthychildren.org/English/health-issues/conditions/developmental-disabilities/Pages/Sensory-Integration-Therapy.aspx>

To find this and other *JAMA Pediatrics* Patient Pages, go to the For Patients collection at [jamanetworkpatientpages.com](http://jamanetworkpatientpages.com).

**Authors:** Michele Kong, MD; Megan A. Moreno, MD, MSEd, MPH  
**Published Online:** October 29, 2018. doi:10.1001/jamapediatrics.2018.3774  
**Conflicts of Interest Disclosures:** None reported.

The *JAMA Pediatrics* Patient Page is a public service of *JAMA Pediatrics*. The information and recommendations appearing on this page are appropriate in most instances, but they are not a substitute for medical diagnosis. For specific information concerning your child's medical condition, *JAMA Pediatrics* suggests that you consult your child's physician. This page may be photocopied noncommercially by physicians and other health care professionals to share with patients. To purchase bulk reprints, call 312/464-0776.

ERROR: syntaxerror  
OFFENDING COMMAND: --nostringval--  
STACK:  
/read\_image\_file  
false