

0.2 AOTA CEUs



# Navigating Sensory Processing Disorder (SPD): An Introductory Course

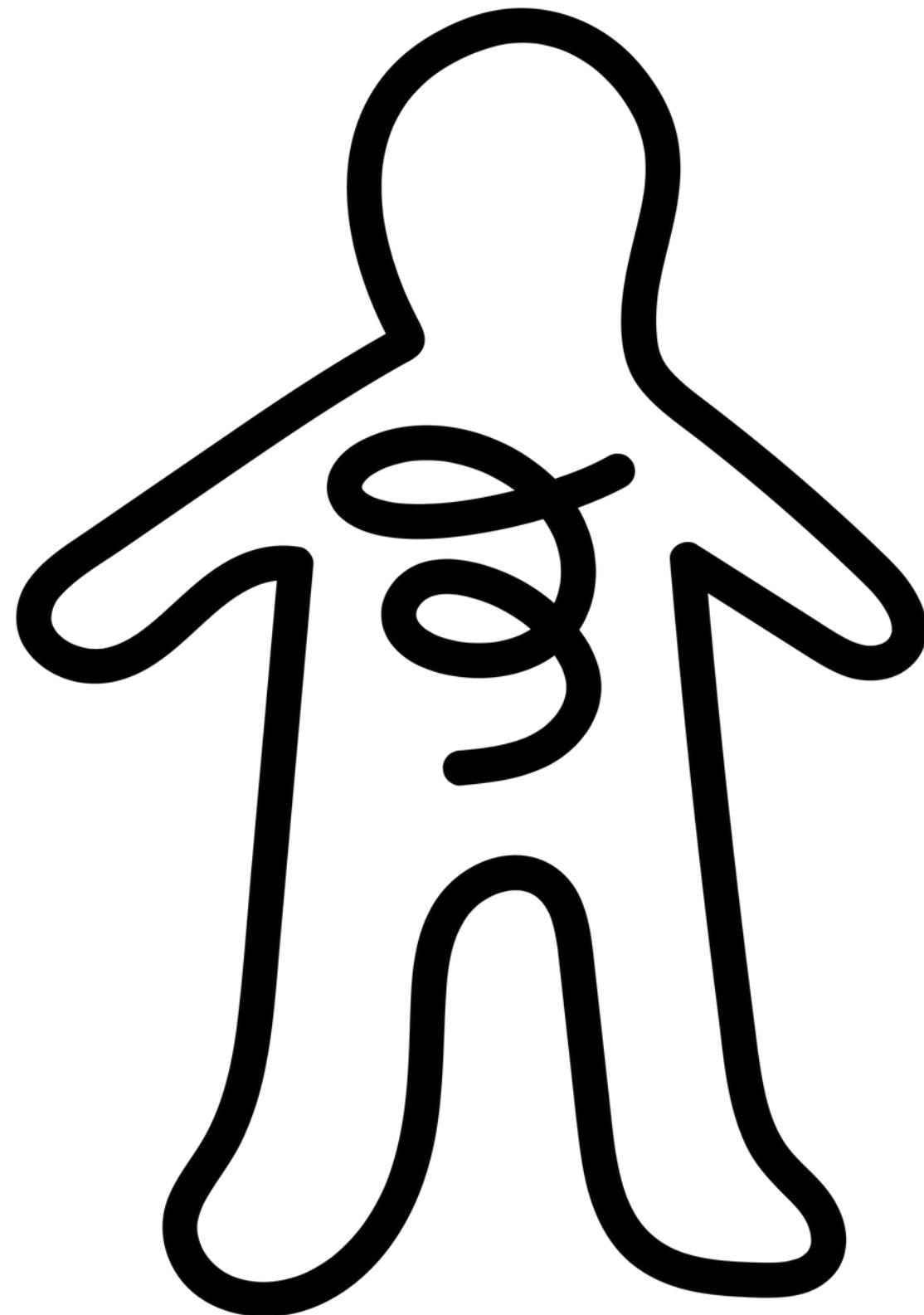
Presented  
by:



**Rachel Harrington**  
COTA/L, CPRCS



**Jessica Hill**  
COTA/L, CPRCS



# AOTA CEU Disclosures



## Financial

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Rachel Harrington and Jessica Hill  
are employees of Harkla Co. and podcast  
hosts of All Things Sensory, by Harkla.



## Non-Financial

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Rachel Harrington and Jessica Hill assisted  
with the creation of the sensory products and  
digital course discussed at the end of the  
presentation, however they do not receive  
commission with sales of the products.

# Description

Are you seeking a deeper understanding of Sensory Processing Disorder (SPD) and how it impacts your child or client's daily life? Navigating Sensory Processing Disorder: An Introductory Course is a comprehensive webinar designed for parents, educators, therapists, and other professionals supporting individuals with sensory challenges. You'll learn:

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01

What Sensory Processing Disorder is: How sensory information is processed in the brain and why some individuals struggle more than others with sensory integration.

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02

How to Recognize the Signs: Learn how SPD manifests in behaviors, emotions, and daily activities across different age groups.

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03

Sub-Types of SPD: Understand the three primary subtypes of SPD—Sensory Modulation Disorder, Sensory-Based Motor Disorder, and Sensory Discrimination Disorder.

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04

Practical Strategies: Easy to implement tips and interventions to create supportive environments and improve participation in everyday activities.

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05

Resources for Support: Additional tools, references and techniques to navigate sensory challenges with confidence.

# Description

Are you seeking a deeper understanding of Sensory Processing Disorder (SPD) and how it impacts your child or client's daily life? Navigating Sensory Processing Disorder: An Introductory Course is a comprehensive webinar designed for parents, educators, therapists, and other professionals supporting individuals with sensory challenges. You'll learn:

Whether you're new to sensory processing or looking for a refresher, this webinar will provide foundational knowledge with practical strategies to help you better understand and support individuals with SPD. Equip yourself with the knowledge and tools to make a meaningful difference. Learn to navigate sensory processing with clarity and confidence from two experts in the field!

# Learning Outcomes

- 01 List 3 components of Sensory Processing Disorder (SPD) and how sensory information is processed in the brain.
- 02 Identify the areas of daily life that SPD can negatively affect in children.
- 03 State the differences between the three primary subtypes of SPD.
- 04 List 5 practical interventions that can be implemented for children with SPD.

# Who are Rachel & Jessica?



**Both Rachel and Jessica hold an associates degree in Occupational Therapy (OT).**

They both hold current licenses as Occupational Therapy Assistants in the State of Idaho, as well as under the national board of OT licensure.

**They both have over 10 years of experience in the field of occupational therapy.**

In order to maintain their current licensure, they are both required to obtain a specific number of continuing education credits per year, which they both do!

**They have both taken courses on: Sensory Integration Theory, Sensory Processing, Autism and Learning Disabilities, Handwriting, Feeding and Oral Motor Skills, Primitive Reflex Integration, and more!**

Their mission is to empower adults and children to better understand their sensory systems, integrate primitive reflexes, and use sensory strategies to lead a happy, healthy, successful life.

# Who is this webinar designed for?



## Parents & Caregivers

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Anyone who has a child or multiple children, or who cares for a child or multiple children.



## Therapists

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Therapists working with children in outpatient or in-home settings.



## Other Professionals

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Any professional who works with children and families.

# What is the goal of today's webinar?

## To Learn:

### **The What**

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Understand what sensory processing is and what Sensory Processing Disorder (SPD) is.

### **The Why**

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Learn why it's so important to understand individual sensory processing needs.

### **The How**

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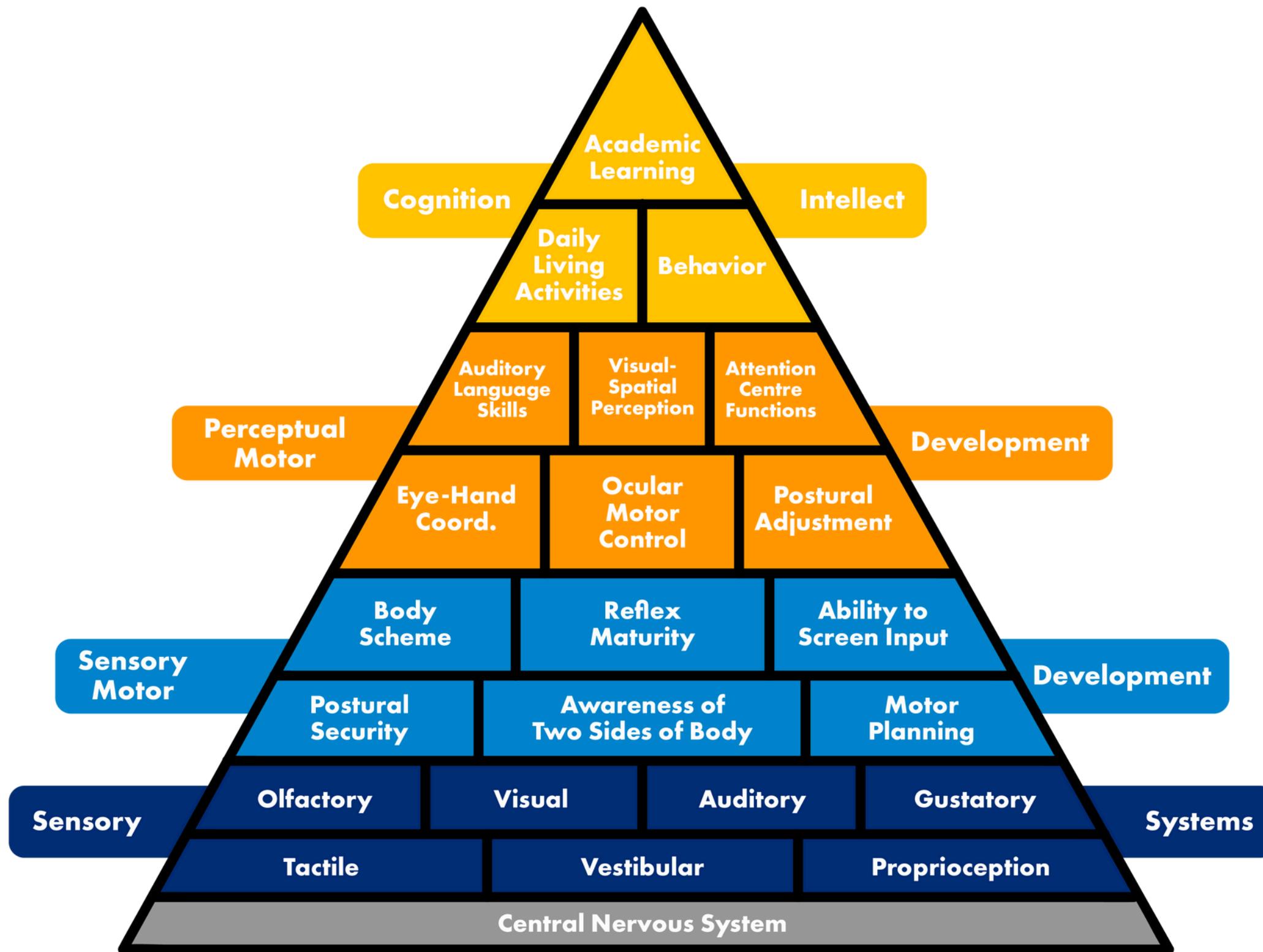
Learn how sensory preferences and SPD affect everyone differently.

### **The Next Step**

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Learn simple tips, tricks and strategies to implement TODAY, including how to create an effective sensory diet.

# The Pyramid of Learning



# **What is sensory integration?**

**Everyone has a sensory system!**

# What is sensory integration?

**Everyone has a sensory system!**

- Sensory integration and processing refers to the way the nervous system receives messages from the senses and turns them into appropriate motor and behavioral responses.
- Whether you are biting into a sandwich, riding a bicycle, or reading a book, your successful completion of the activity requires accurate processing of sensation.
- Everyone processes the sensory world differently.

Source: [sensoryhealth.org/basic/about-spd](http://sensoryhealth.org/basic/about-spd)

# There are 8 sensory systems

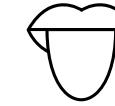
You are likely familiar with the main 5, but there are 3 hidden senses!



Visual



Auditory



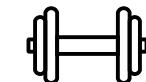
Gustatory  
(Taste)



Olfactory  
(Smell)



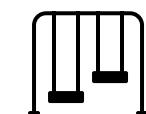
Tactile  
(Touch)



Proprioception



Interoception



Vestibular

01

## Visual

This is your sense of sight - not how well you see, but how your brain interprets the visual information in your environment.



02

## Auditory

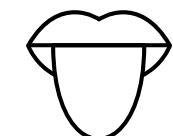
This is your sense of hearing - not how well you hear, but how your brain interprets the auditory information in your environment.



03

## Gustatory

This is your sense of taste.



04

## Olfactory

This is your sense of smell.



05

## Tactile

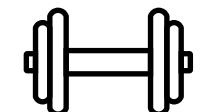
This is your sense of touch. You have tactile receptors all over your body.



06

## Proprioception

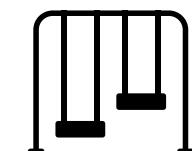
This is your sense of movement and body position. You have receptors in your joints and muscles that tell your brain where your body is and what it's doing.



07

## Vestibular

This is your sense of movement. Your vestibular system is located in your inner ears, therefore whenever your head moves, you activate your vestibular system.



08

## Interoception

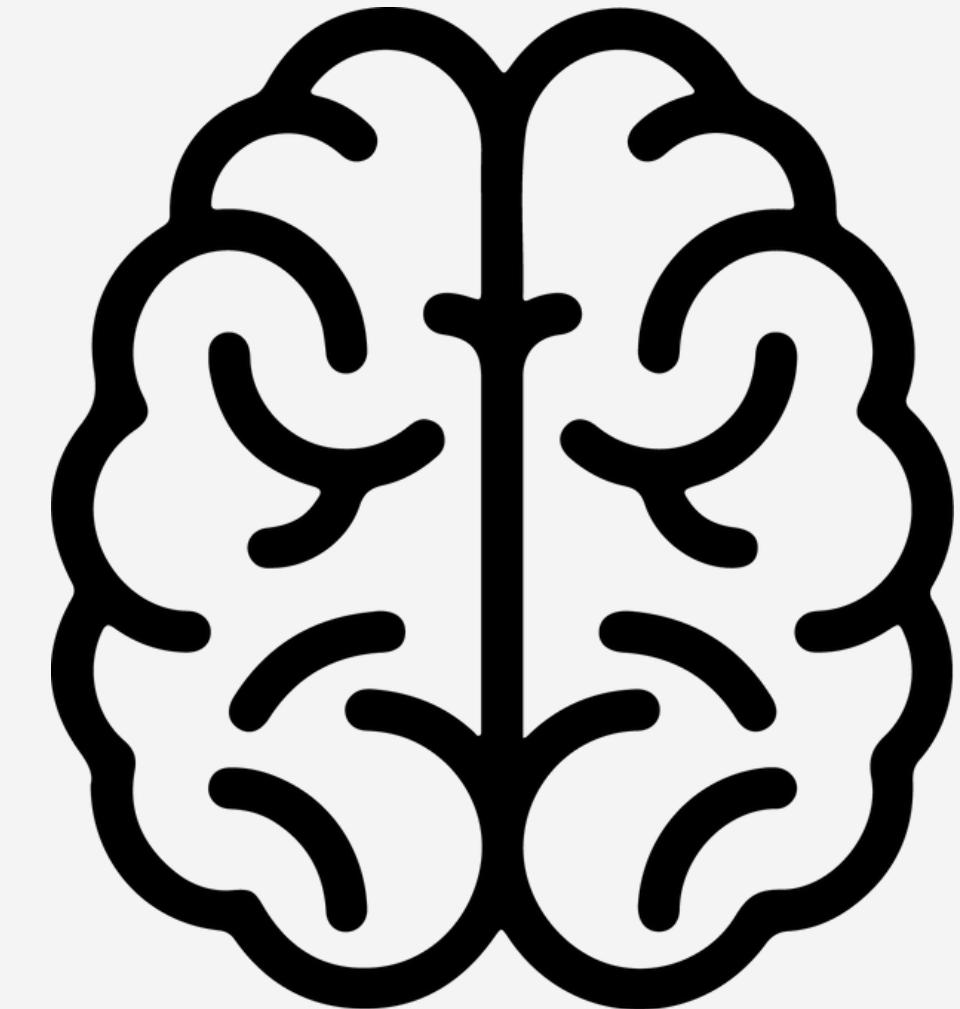
This is your sense of internal processing - hunger and thirst, needing to use the bathroom, when you feel sick, etc.



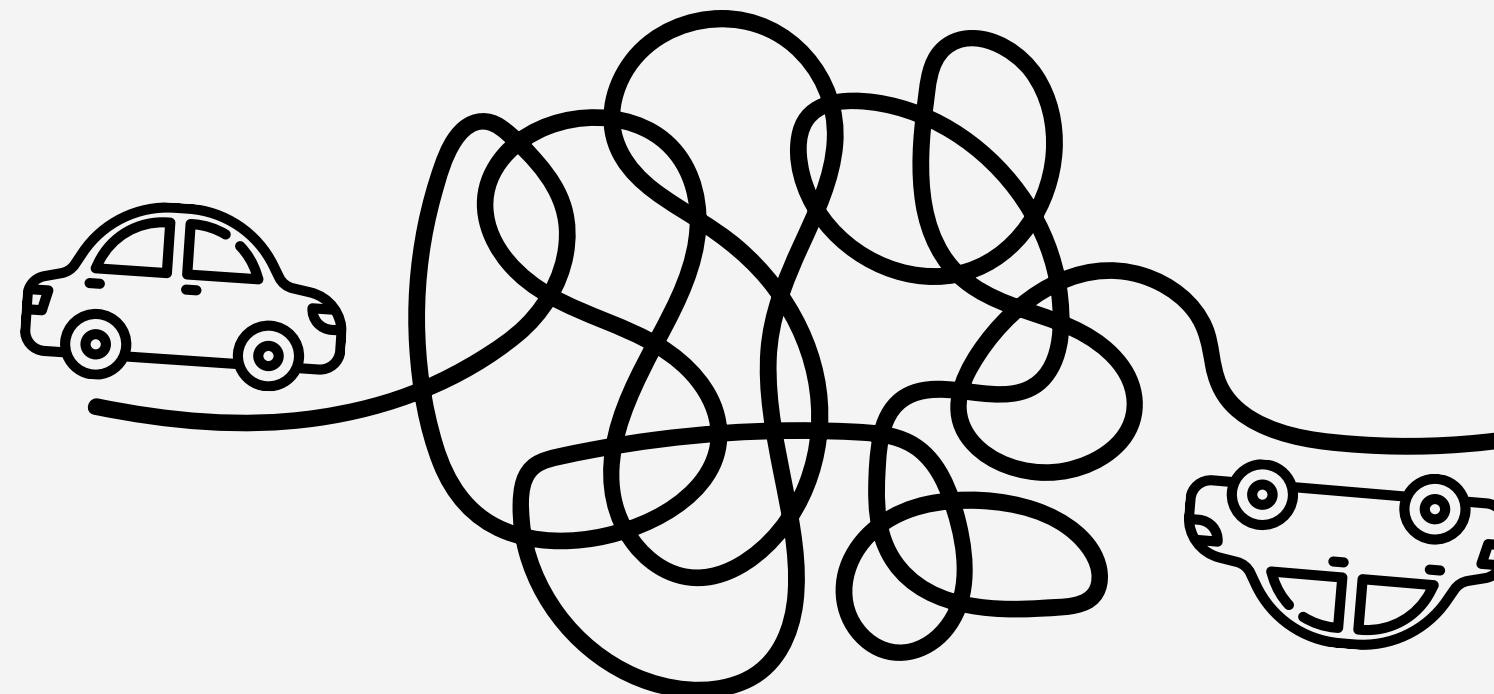
**We all have these 8 senses,  
but we all process the sensory  
world a little bit differently.**

**Everyone has their unique sensory quirks.**

**But sometimes the signals from the body  
and brain get mixed up and sensory  
processing challenges may arise.**



# What happens if there's a sensory traffic jam?



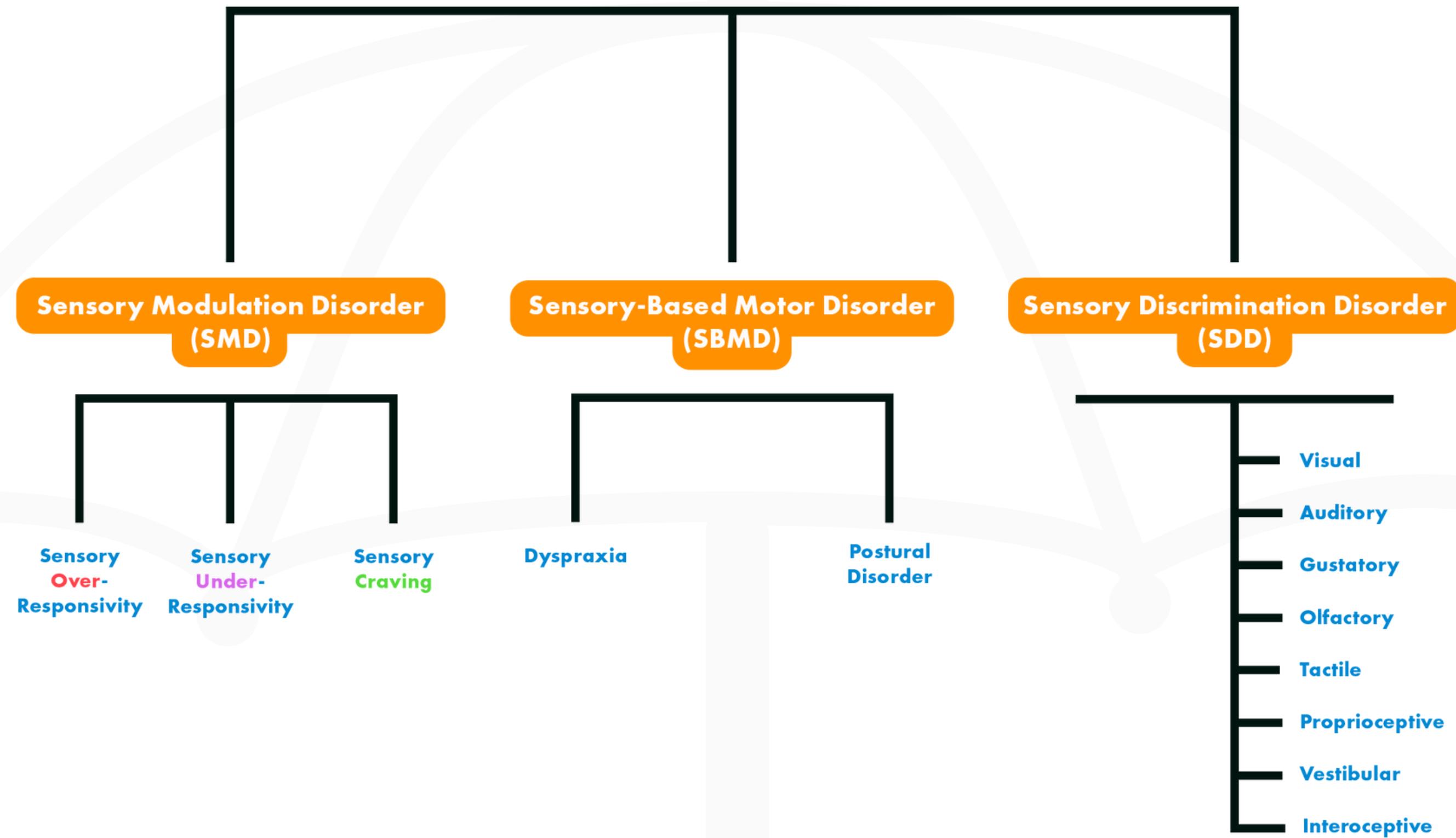
- Now imagine a traffic jam of those messages. They aren't being efficiently transmitted, or they're getting lost or stuck or just not making sense to the brain.
- When those messages aren't being efficiently transferred on the inside, the outside world can look like:
  - noises that are too loud to process
  - movement makes you ill
  - certain textures create a visceral response

# Sensory Processing Disorder (SPD)

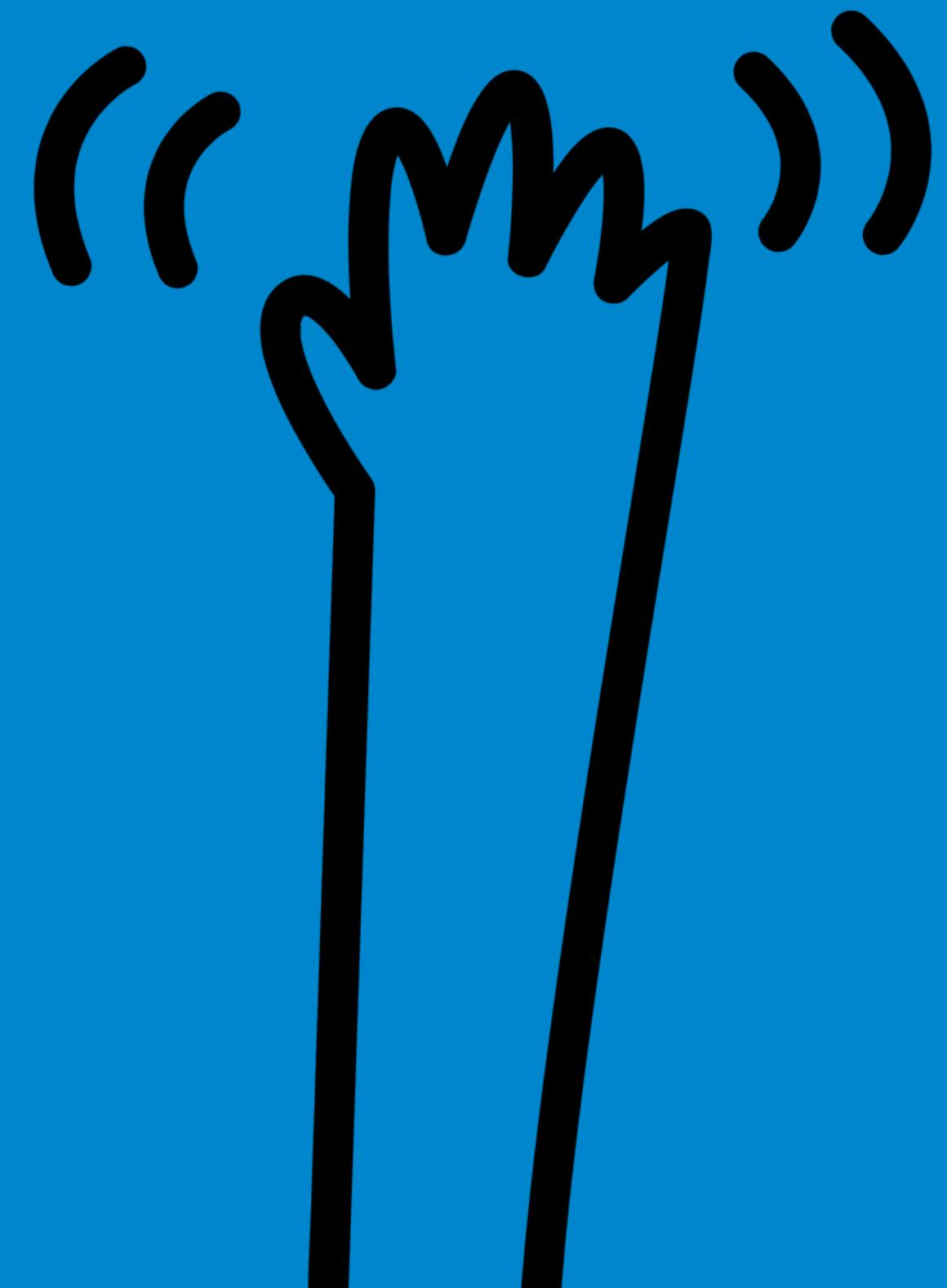
- Sensory processing disorder (SPD) is a condition that affects how your brain processes sensory information (stimuli).
- Some individuals have mild challenges with processing the sensory world, some have significant challenges, and some have what we call 'sensory quirks' that are noticeable, but the individual can still function.
- SPD can affect one sense or multiple senses. Children who have SPD may overreact to sounds, clothing, and food textures. Or they may underreact to sensory input. This causes them to crave more intense thrill-seeking stimuli. Also, children with SPD are not always just one or the other. They can be a mixture of oversensitive and under-sensitive.

Source: [familydoctor.org/condition/sensory-processing-disorder-spd](https://familydoctor.org/condition/sensory-processing-disorder-spd)

# Sensory Processing Disorder (SPD)



Source: [sensoryhealth.org/basic/subtypes-of-spd](https://sensoryhealth.org/basic/subtypes-of-spd)



**How does SPD  
impact daily  
life?**

**When a child can't  
process the messages  
from the sensory world,  
they struggle with daily  
tasks.**

**When a child can't process the messages from the sensory world, they struggle with daily tasks.**

01

**Bathing, using the bathroom, and personal hygiene**

**When a child can't process the messages from the sensory world, they struggle with daily tasks.**

01

**Bathing, using the bathroom, and personal hygiene**

02

**Mealtimes and self-feeding**

**When a child can't process the messages from the sensory world, they struggle with daily tasks.**

02

**Mealtime and self-feeding**

01

**Bathing, using the bathroom, and personal hygiene**

03

**Daily routines and transitions between tasks**

04

## **Social interactions and play**

04

## **Social interactions and play**

05

## **Going out to the store, the playground, school, etc.**

04

## **Social interactions and play**

05

## **Going out to the store, the playground, school, etc.**

06

## **Emotional regulation**

04

**Social interactions and play**

05

**Going out to the store, the playground, school, etc.**

06

**Emotional regulation**

07

**Sleep and rest**

# **SPD vs. Sensory Quirks**

**How do I know if my  
child or client has SPD  
and not just sensory  
quirks? What is the  
difference??**

# **SPD vs. Sensory Quirks**

**How do I know if my  
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difference??**

- SPD: if the sensory needs severely impact daily functioning on a consistent basis, not just every once in a while.

# **SPD vs. Sensory Quirks**

**How do I know if my child or client has SPD and not just sensory quirks? What is the difference??**

- SPD: if the sensory needs severely impact daily functioning on a consistent basis, not just every once in a while.
- Quirks: if the child is able to get through their day with some challenges but overall able to work through their sensory differences.

# SPD

Some examples of true sensory processing disorder symptoms:

- Unable to tolerate clothing, limited food preference, self injurious behaviors, or significant drooling due to tactile processing challenges.
- Severe motion sickness, gravitational insecurity, w-sitting or low muscle tone, or is considered on-the-go due to vestibular processing challenges.

# SPD

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# Sensory Quirks

Some examples of sensory quirks:

- Washes hands frequently while touching non-preferred foods or textures, although can tolerate the textures.
- Notices the sounds of people chewing or has a hard time filtering out background noise while trying to work in a busy place.

# **Sensory Modulation Disorder**

- 1. Sensory Over-Responsivity**
- 2. Sensory Under-Responsivity**
- 3. Sensory Craving**

# Sensory Modulation Disorder (SMD)

- Sensory Modulation refers to a complex process of perceiving sensory information, followed by an appropriate adaptive response to the situation.
- It describes the ability to regulate and organize reactions to sensory input, filter out unnecessary sensory stimuli, and focus on relevant stimuli while maintaining an optimal level of arousal.
- This is a critical component of a human's ability to function that affects the person's ability to interact with the physical and human environment, their ability to adapt to daily life challenges, and their quality of life.

Source: [onlinelibrary.wiley.com/doi/full/10.1111/j.1469-8749.2008.03095.x](https://onlinelibrary.wiley.com/doi/full/10.1111/j.1469-8749.2008.03095.x)

01

# Sensory Over- Responsivity

- More sensitive to sensory stimulation than most people.
- Feeling sensation too easily or too intensely.
- Often have a “fight or flight” response to sensation.
- May try to avoid or minimize sensations.
- Sometimes called “sensory defensiveness.”

Source: [sensoryhealth.org/basic/subtypes-of-spd](https://sensoryhealth.org/basic/subtypes-of-spd)

01

## Visual Over-Responsivity

- Easily distracted in busy environments
- Dislike of bright lights or fast moving objects
- Cannot locate items from a distracting background

02

## Auditory Over-Responsivity

- As a baby, startled/cried easily with noises like the blender, vacuum, etc., and doesn't get used to them
- Covers ears frequently to sounds like the toilet flushing
- Dislikes / can't focus in noisy locations

03

## Gustatory Over-Responsivity

- May be considered a picky eater
- Gags / chokes often while eating
- Challenges with imitating tongue movements / facial expressions

04

## Olfactory Over-Responsivity

- Focuses on smells in the environment others may not notice
- Plugs nose in new places like restaurants

05

## Tactile Over-Responsivity

- Bothered by clothing items, textures, socks, etc
- Startles when touched unexpectedly
- Dislikes getting dirty / messy
- Often considered a picky eater

06

## Proprioception Over-Responsivity

- Avoids hugs
- Does not benefit from weighted vests, compression clothing, weighted blankets etc - does not seek out heavy work in any way and may become easily fatigued

07

## Vestibular Over-Responsivity

- Dislikes / avoids tasks that require feet to leave the ground
- Clingy baby- doesn't like being thrown in the air or upside down
- Gets motion sick often and easily
- Dislikes tilting head back in shower / bath

08

## Interoception Over-Responsivity

- Low pain tolerance
- Significant distress when cold, transitioning out of bathtub or pool
- Frequently complaining of pain / random aches
- May avoid potty training

# Sensory Strategies for Over- Responsiveness

## STRATEGIES

01

### Visual Over-Responsivity

- Reduce visual clutter
- Provide sunglasses, baseball cap
- Use natural lighting vs. artificial lighting

02

### Auditory Over-Responsivity

- Noise cancelling headphones
- Therapeutic listening program
- Heavy work / proprioceptive input

03

### Gustatory Over-Responsivity

- Feeding therapy
- Play with food and different tactile mediums  
(no pressure to eat) - messy play!
- Food chaining

04

### Olfactory Over-Responsivity

- Essential oil bracelet
- Heavy work / proprioceptive input

## STRATEGIES

### 05 Tactile Over-Responsivity

- Change clothing textures, remove tags, seamless socks
- Heavy work / proprioceptive input

### 06 Proprioception Over-Responsivity

- Full body movement activities
- Rest as needed during physically demanding activities
- Activities with vision occluded

### 07 Vestibular Over-Responsivity

- Heavy work / proprioceptive input
- Jumping activities
- Astronaut Training

### 08 Interoception Over-Responsivity

- Visual schedule and emotional regulation tools
- Calm environments
- Nervous system regulation

02

# Sensory Under- Responsivity

- Often quiet and passive, disregarding or not responding to stimuli.
- May appear withdrawn, difficult to engage and or self-absorbed.
- May have poor body awareness, clumsiness or movements that are not graded appropriately.
- May not perceive objects that are too hot or cold, or may not notice pain
- Do not detect the sensory input in their environment.

01

## Visual Under-Responsivity

- Difficulty with hand eye coordination tasks
- Challenges with reading and writing
- Difficulty recognizing letters and shapes

02

## Auditory Under-Responsivity

- May not hear name being called
- Challenges following auditory instructions
- May have auditory processing disorder

03

## Gustatory Under-Responsivity

- Smells and licks non-edible items
- Prefers strong odors and flavored items
- Makes mouth noises, lip smacking, licks lips to the point of redness around mouth

04

## Olfactory Under-Responsivity

- Smells and licks non-edible items
- Prefers strong odors and flavored items
- Makes mouth noises, lip smacking, licks lips to the point of redness around mouth

05

## Tactile Under-Responsivity

- Unintentionally rough on pets or other kids
- May over stuff food in mouth
- Doesn't notice food/drool/nose running
- Touches objects or others to the point of irritating others

06

## Proprioception Under-Responsivity

- Loves tight spaces, squeezes, hugs
- Uses too much force on objects: pencil, crayons, eating utensils, drums, etc.
- Chews on clothes, sucks on fingers, pencils, etc.

07

## Vestibular Under-Responsivity

- May have low muscle tone, w-sits frequently
- Dislikes sedentary tasks
- Movement that interferes with daily tasks
- Focuses best with movement

08

## Interoception Under-Responsivity

- Challenges with toilet training - may not recognize when needing to go
- Doesn't recognize when hungry, thirsty, in pain
- Difficulty sleeping

# Sensory Strategies for Under- Responsiveness

## STRATEGIES

### 01 Visual Under-Responsivity

- Provide more visual contrast
- Use vestibular based activities

### 02 Auditory Under-Responsivity

- Auditory processing disorder specialist
- Metronome activities / rhythm
- The Listening Program / music

### 03 Gustatory Under-Responsivity

- Oral motor input - chew tube, Z-vibe
- Strong flavored foods
- Cold drinks / smoothies

### 04 Olfactory Under-Responsivity

- Essential oil bracelet
- Messy play with scents

## STRATEGIES

05

### Tactile Under-Responsivity

- Heavy work
- Vibration
- Compression

06

### Proprioception Under-Responsivity

- Heavy work
- Vibration
- Compression

07

### Vestibular Under-Responsivity

- Fast vestibular activities
- Jumping, running, climbing
- Inversion, somersaults, etc.

08

### Interoception Under-Responsivity

- Visual schedule for daily routines
- Emotional regulation tools / programs
- Vestibular activities

03

# Sensory Craving

- Actively seek or crave sensory stimulation and seem to have an almost insatiable desire for sensory input.
- Constantly moving, crashing, bumping, and/or jumping.
- May “need” to touch everything and be overly affectionate, not understanding what is “their space” vs. “other’s space.”
- Often thought to have Attention Deficit Hyperactivity Disorder (ADHD) or Attention Deficit Disorder (ADD).
- When the individual receives more input it does not regulate him/her; in fact, those with true craving disorders become disorganized with additional stimulation.

Source: [sensoryhealth.org/basic/subtypes-of-spd](http://sensoryhealth.org/basic/subtypes-of-spd)

## 01 **Visual Craving**

- Loves shiny, spinning objects
- Loves fast motion tv shows, colorful, action packed movies
- Prefers messy room, cluttered spaces

## 02 **Auditory Craving**

- Makes noises, silly sounds frequently
- Prefers tv and music to be loud
- Prefers loud toys

## 03 **Gustatory Craving**

- Craves spicy, sweet, sour, food flavors, etc
- May eat non-edible items like rocks, dirt, playdough, etc. (rule out Pica)

## 04 **Olfactory Craving**

- Prefers strong odors like perfume, laundry detergent, and gasoline

## 05 Tactile Craving

- Jumping, crashing, falling frequently
- Touching things, others, mouthing

## 06 Proprioception Craving

- Grinds teeth, cracks knuckles
- Prefers chewy, crunchy foods
- Prefers tight fitting clothing
- Self-injurious behaviors

## 07 Vestibular Craving

- As a baby, happiest and calmest when rocked, bounced, in swing, etc.
- Is in constant motion; considered on-the-go
- Loves spinning and amusement park rides; does not get motion sick
- Rocks / moves while sitting still

## 08 Interoception Craving

- Challenges with potty training - may hold bowel movements
- May over-eat to feel “more full”
- Difficulty falling and staying asleep

# Sensory Strategies for Sensory Cravers

## STRATEGIES

### 01 Visual Craving

- Cause-and-effect visual toys
- High contrast
- More vestibular activities

### 02 Auditory Craving

- Therapeutic listening program
- Metronome activities
- Music and rhythm

### 03 Gustatory Craving

- Oral motor input - chew tube, Z-vibe
- Crunchy, chewy, resistive foods
- Sour spray

### 04 Olfactory Craving

- Essential oil bracelet
- Messy play with scents

## STRATEGIES

### 05 Tactile Craving

- Tactile fidgets
- Heavy work
- Full body vibration

### 06 Proprioception Craving

- Oral motor input
- Heavy work / full body movement
- Sports like karate, rock climbing, swimming

### 07 Vestibular Craving

- Running, jumping, crashing
- Combination vestibular and proprioceptive activities
- Circuit style obstacle courses

### 08 Interoception Craving

- Vibration
- Visual schedule
- Reward system if applicable
- Vestibular activities

# **Sensory - Based Motor Disorder**

- 1. Dyspraxia**
- 2. Postural Disorder**

01

# Dyspraxia

- Trouble processing sensory information properly, resulting in problems planning and carrying out new motor actions.
- Difficulty in forming a goal or idea, planning a sequence of actions, or performing new motor tasks.
- Clumsy, awkward, and accident-prone.
- Poor skill in ball activities or other sports, or have trouble with fine motor activities.
- May prefer sedentary activities or try to hide their motor planning problems.

02

# Postural Disorder

- Difficulty stabilizing his/her body during movement or at rest in order to meet the demands of the environment or of a motor task.
- Often do not have the body control to maintain a good standing or sitting position.
- Challenges maintaining upright position on unenclosed swings and slides

# **Sensory Strategies for Sensory-Based Motor Disorder**

## Sensory-Based Motor Disorder

### STRATEGIES

- Multi-sensory learning
- Novel motor activities - learning a new sport
- Executive function skill building tools
- Full body heavy work activities - crawling, jumping, climbing
- Repetition!

## Sensory-Based Motor Disorder

## STRATEGIES

- Multi-sensory learning
- Novel motor activities - learning a new sport
- Executive function skill building tools
- Full body heavy work activities - crawling, jumping, climbing
- Repetition!
- Visual feedback
- Therapy ball exercises / activities
- Vestibular activities
- Vibration
- Preparatory activities before seated tasks, before handwriting tasks, etc.

# Sensory Discrimination Disorder

# Sensory Discrimination Disorder

- Discriminate means understanding accurately what is seen, heard, felt, tasted, or smelled.
- Problems determining the characteristics of sensory stimuli.
- The result is a poor ability to interpret or give meaning to the specific qualities of stimuli or difficulty detecting similarities and differences among stimuli.
- May appear awkward in both gross and fine motor abilities and/or inattentive to people and objects in their environment.
- May take extra time to process the important aspects of sensory stimuli.

Source: [sensoryhealth.org/basic/subtypes-of-spd](http://sensoryhealth.org/basic/subtypes-of-spd)

# **Sensory Strategies for Sensory Discrimination Disorder**

## Sensory Discrimination Disorder

### STRATEGIES

- Mindfulness training
- Sensory integration therapy
- Decompression strategies
- Full body heavy work activities - crawling, jumping, climbing
- Heavy work and deep touch pressure
- Follow Your Nose game

## Sensory Discrimination Disorder

### STRATEGIES

- Mindfulness training
- Sensory integration therapy
- Decompression strategies
- Full body heavy work activities - crawling, jumping, climbing
- Heavy work and deep touch pressure
- Follow Your Nose game
- Multi-sensory learning
- Visuals - visual schedule, visual timer
- Yoga, karate, flag football
- Vibration
- Preparatory activities before seated tasks, before handwriting tasks, etc.
- Activities with vision occluded

# **Have empathy!**

**Here's what we want you to envision:**

# Have empathy!

**Here's what we want you to envision:**

- Close your eyes and imagine fingernails scraping on a chalkboard.
- Now try saying the alphabet backwards.
- Next, balance on one foot.
- Now have your friend sing twinkle twinkle little star while you're trying to do all of this.

# Have empathy!

**Here's what we want you to envision:**

- Close your eyes and imagine fingernails scraping on a chalkboard.
- Now try saying the alphabet backwards.
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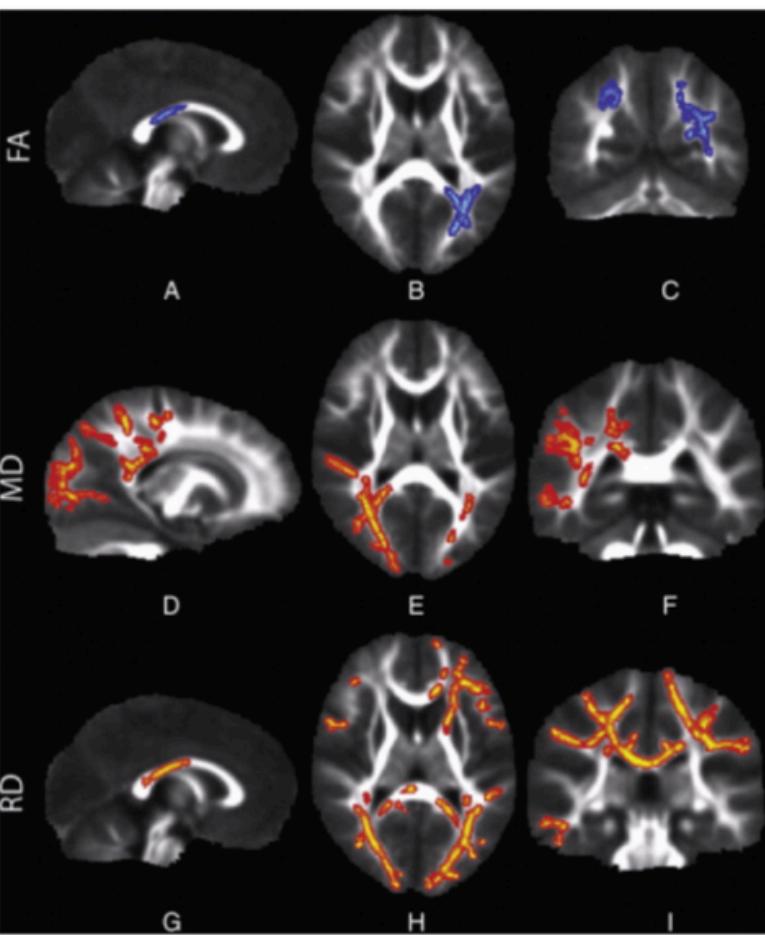


**How'd it go? Not easy? We didn't think so! Did you get frustrated at all? Keep this example in mind as we continue!**

# Research

# Breakthrough Study Reveals Biological Basis for Sensory Processing Disorders in Kids

[https://www.ucsf.edu/news/2013/07/107316/breakthrough-study-reveals-biological-basis-sensory-processing-disorders-kids?utm\\_source=chatgpt.com](https://www.ucsf.edu/news/2013/07/107316/breakthrough-study-reveals-biological-basis-sensory-processing-disorders-kids?utm_source=chatgpt.com)



These brain images, taken with DTI, show water diffusion within the white matter of children with sensory processing disorders. Row FA: The blue areas show white matter where water diffusion was less directional than in typical children, indicating impaired white matter microstructure. Row MD: The red areas show white matter where the overall rate of water diffusion was higher than in typical children, also indicating abnormal white matter. Row RD: The red areas show white matter where SPD children have higher rates of water diffusion perpendicular to the axonal fibers, indicating a loss of integrity of the fiber bundles comprising the white matter tracts.

The study examined 16 boys, between the ages of eight and 11, with SPD but without a diagnosis of autism or prematurity, and compared the results with 24 typically developing boys who were matched for age, gender, right- or left-handedness and IQ. The patients' and control subjects' behaviors were first characterized using a parent report measure of sensory behavior called the Sensory Profile.

The imaging detected abnormal white matter tracts in the SPD subjects, primarily involving areas in the back of the brain, that serve as connections for the auditory, visual and somatosensory (tactile) systems involved in sensory processing, including their connections between the left and right halves of the brain.

"These are tracts that are emblematic of someone with problems with sensory processing," said Mukherjee. "More frontal anterior white matter tracts are typically involved in children with only ADHD or autistic spectrum

# Sensory Processing and Attention Profiles Among Children With Sensory Processing Disorders and Autism Spectrum Disorders

## Conclusion

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The study findings indicated that children with ASD and children with SPD have different sensory processing and attention profiles. Specifically, children with SPD tend to have more sensory processing issues than children with ASD, whereas children with ASD tend to have more attention deficits than children with SPD. Compared to TD children, the ASD group had challenges in both subtypes of attention, namely, sustained and control attention ([Figure 1B](#)), while the SPD group appeared to have some difficulty in sustained attention. Also, children with ASD have more deficits in control attention than the SPD group ([Figure 1B](#)). These results can help therapists identify specific treatment strategies while working on attention and sensory processing in children with SPD and ASD. The results of this study indicate that the profiles of abilities and challenges are unique for the ASD and SPD groups. These findings suggest that for children with SPD, therapy should emphasize sensory-based strategies while including global attention tasks. Whereas for children with ASD, therapy should prominently consider global attention training along with sensory-based techniques.

# **Attention deficit hyperactivity disorder and sensory modulation disorder: A comparison of behavior and physiology**

Children with attention deficit hyperactivity disorder (ADHD) are impulsive, inattentive and hyperactive, while children with sensory modulation disorder (SMD), one subtype of Sensory Processing Disorder, have difficulty responding adaptively to daily sensory experiences. ADHD and SMD are often difficult to distinguish. To differentiate these disorders in children, clinical ADHD, SMD, and dual diagnoses were assessed. All groups had significantly more sensory, attention, activity, impulsivity, and emotional difficulties than typical children, but with distinct profiles. Inattention was greater in ADHD compared to SMD. Dual diagnoses had more sensory-related behaviors than ADHD and more attentional difficulties than SMD. SMD had more sensory issues, somatic complaints, anxiety/depression, and difficulty adapting than ADHD. SMD had greater physiological/electrodermal reactivity to sensory stimuli than ADHD and typical controls. Parent-report measures identifying sensory, attentional, hyperactive, and impulsive difficulties varied in agreement with clinician's diagnoses. Evidence suggests ADHD and SMD are distinct diagnoses.

# **The Occurrence of the Sensory Processing Disorder in Children Depending on the Type and Time of Delivery: A Pilot Study**

## **5. Conclusions**

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Our research shows that the Sensory Processing Disorder is found in pre-term children and children born by C-section with statistically significantly higher frequency than in full-term vaginally born children.

<https://pmc.ncbi.nlm.nih.gov/articles/PMC9180069/#:~:text=This%20research%20indicates%20that%20the%20Sensory%20Processing,C%2Dsection%20and%2084%%20of%20children%20born%20prematurely.&text=Our%20research%20shows%20that%20the%20Sensory%20Processing,frequency%20than%20in%20full%2Dterm%20vaginally%20born%20children>

## What are the risk factors for SPD?

Several groups ([Ben- Sasson et al., 2009](#); [Keuler et al., 2011](#); [May-Benson et al., 2009](#); [Schneider et al., 2007, 2008, 2009](#); [Wickremasinghe et al. in press](#);) suggest the following are possible risk factors associated with SPD:

- Low birth weight (less than 2200 gram)
- Prematurity (less than 36 weeks gestation)
- Prenatal complications
- Maternal stress
- Maternal illness
- Maternal use of medications
- Delivery complications
- Assisted delivery methods
- Ethnic minority
- Living with a single parent
- Lower socioeconomic status

<https://sensoryhealth.org/basic/latest-research-findings#f2>

# Identification of Sensory Processing and Integration Symptom Clusters: A Preliminary Study

## 1. Introduction

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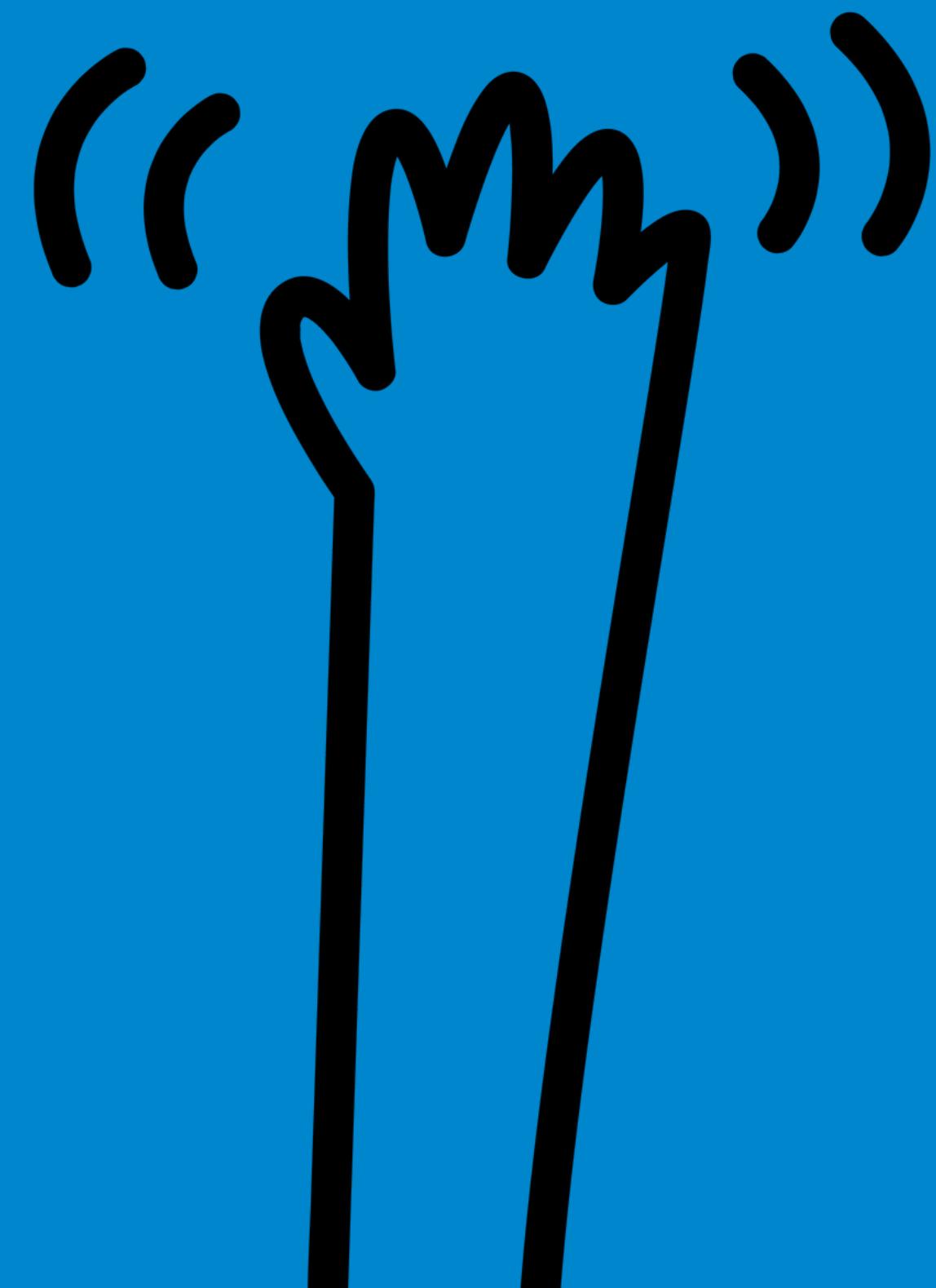
Current estimates indicate that 5% to 16.5% of the general population [1, 2] have symptoms associated with sensory processing challenges and these estimates are higher for clinical populations such as autism spectrum disorder (ASD) [3] and attention deficit hyperactivity disorder (ADHD) [4]. Sensory processing is part of normal development and reflects one's ability to interpret and respond to daily sensory experiences [5]. The integration of sensory information contributes to successful functioning in daily life reflected in our ability to self-regulate, interact socially [2], and develop adaptive behavioral skills/abilities [6]. Thus,

[https://pmc.ncbi.nlm.nih.gov/articles/PMC5733937/#:~:text=Current%20estimates%20indicate%20that%205,\(ADHD\)%20%5B4%5D](https://pmc.ncbi.nlm.nih.gov/articles/PMC5733937/#:~:text=Current%20estimates%20indicate%20that%205,(ADHD)%20%5B4%5D)

## **Sensory Processing Disorder in Preterm Infants during Early Childhood and Relationships to Early Neurobehavior**

Sensory processing disorder affects 39% to 52% of infants born preterm, with some evidence suggesting that infants born earlier than 32 weeks carry the greatest risk [5, 13, 14]. Patterns of low registration have been described as one of the most common types of sensory processing disorder in those born preterm [5, 13]. Many children who are born preterm also exhibit tactile defensiveness and have a hyperactive temperament [15], impacting their ability to interact and respond to the environment in appropriate ways. Literature has shown that sensory processing disorder in children born preterm persists until at least eight years of age [5, 13, 14, 16–18].

<https://pmc.ncbi.nlm.nih.gov/articles/PMC5654666/#:~:text=Conclusion,and%20early%20neurobehavior%20were%20identified>



So, where  
do you go  
from here?

# Create a sensory diet

- A sensory diet is a group of **sensory-based activities** that help a person feel cool, calm, and regulated.
- A sensory diet is **personalized** - everyone is different so every sensory diet is different.
- Think about the things you do throughout the day to stay focused - chewing gum, going on a mid-day walk, etc. - those are all part of your sensory diet!
- You've likely learned to do these things without even thinking about them ... subconsciously you know that they help you.

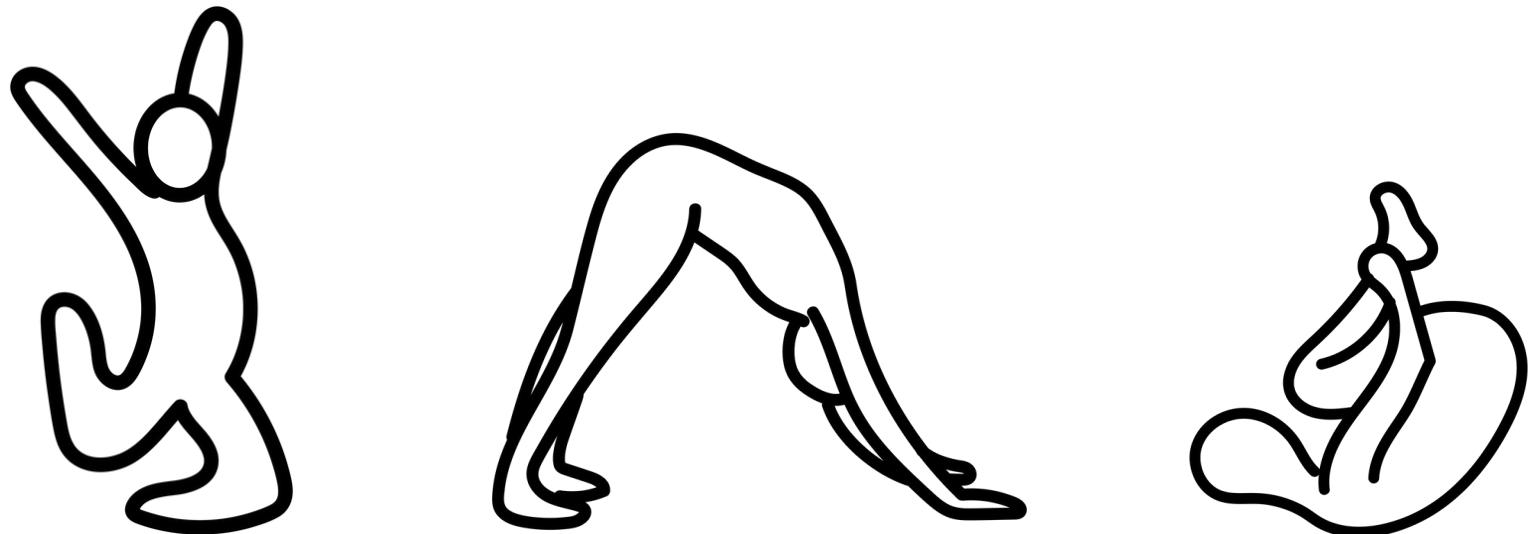


# Sensory Diets

**Everyone benefits from sensory diets!**

We all participate in sensory diets of our own without thinking about it.

- Drinking coffee in the morning
- Going for a walk after work
- Doodling while listening to a lecture
- Chewing gum
- Exercising



**Everyone's  
sensory diet will  
be a little bit  
different, to meet  
their unique  
sensory needs**

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### **Morning Sensory Diet:**

Alerting sensory activities (vestibular, visual, auditory)  
Sensory breakfast (crunchy, cold)  
Full body heavy work (proprioception)

### **After School Sensory Diet:**

Decompress in a sensory corner with a sensory snack  
Full body movement (vestibular, proprioception)  
Sensory circuit (visual, auditory, tactile)

### **Bedtime Sensory Diet:**

Full body movement to meet the sensory threshold  
Calming sensory environment (dim lights, calm music, etc.)  
Heavy work and deep pressure

# Sensory Diet Example for a Sensory Craver:

**SENSORY DIET**

**Sensory Craver**

Use this sensory diet for a child who is a sensory craver - they seek out MORE input, may be considered a "dare devil" or "disruptive", and struggle with impulse control

Have your kiddo check off the 'Done!' box when each activity is completed!

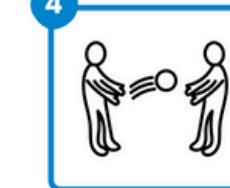
**TO DO → DONE!**

1 

2 

**TO DO → DONE!**

3 

4 

**TO DO → DONE!**

5 

6 

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**SENSORY DIET**

**Sensory Craver**

Use this sensory diet template for kiddos working on reading, who don't need the visuals.

Have your kiddo check off the 'Done!' box when each activity is completed!

**TO DO → DONE!**

1 Spin in a circle, 3-5 times each direction.

2 Complete a clap-pat pattern 10 times.

**TO DO → DONE!**

3 Try to push the wall over for 20 seconds.

4 Play catch with a partner (or bounce off the wall) 5 times.

**TO DO → DONE!**

5 Jump and crash (on crash pad or cushions) 5 times.

6 Lay on back & take 5 deep belly breaths.

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**What are your  
action items?**

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**Parents and  
Caregivers:**

01

# **Identify your child's sensory preferences.**

Identify if those sensory preferences are significantly impacting your child's ability to get through their day or if they are just sensory quirks.

01

## **Identify your child's sensory preferences.**

Identify if those sensory preferences are significantly impacting your child's ability to get through their day or if they are just sensory quirks.

02

## **Call your pediatrician and get an OT referral.**

Your child may benefit from Occupational Therapy (OT) services if their sensory preferences are significantly impacting their ability to get through their day.

03

## **Talk with your child's team and discuss everyone's observations.**

- School
- Daycare
- Grandparents
- Anyone who spends time around your child

03

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04

## **Sign up for our Sensory Diet Digital Course**

We give you more in depth training on how to create the perfect sensory diet, tools to use, handouts to download and more!

05

## **Do some reading and some research**

Here are our favorite book recommendations:

- Raising a Sensory Smart Child
- The Out of Sync Child
- Too Loud Too Bright Too Fast Too Tight

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06

## **Listen to our podcast**

The All Things Sensory Podcast by Harkla can be found on all free podcast platforms.

07

## Consistency is key

Consistently implement the strategies, activities and resources you learn about based on your child's needs.

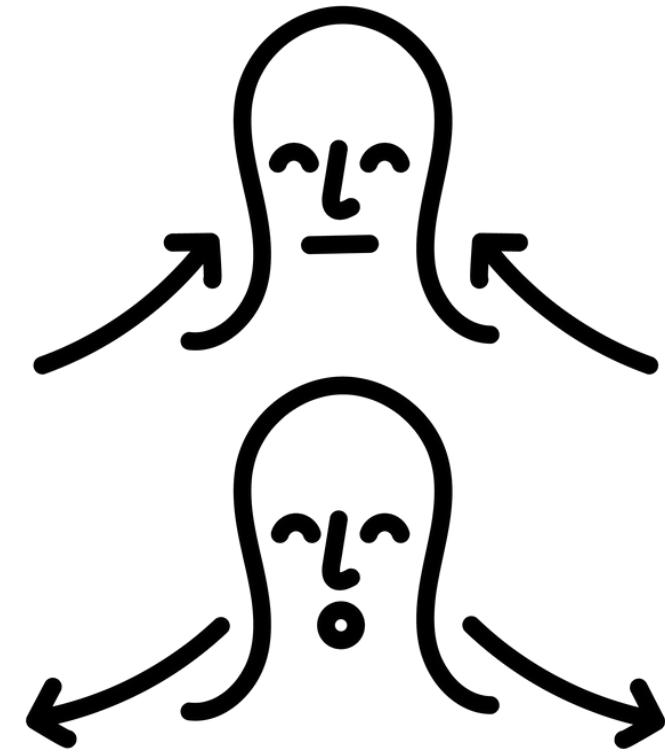
It won't always be perfect and you may have to experiment and try new things.

07

## Consistency is key

Consistently implement the strategies, activities and resources you learn about based on your child's needs.

It won't always be perfect and you may have to experiment and try new things.



**Take a deep breath.  
You can do this!**

# **Therapists and Professionals:**

01

# **Identify the child's sensory preferences.**

Identify if those sensory preferences are significantly impacting the child's ability to get through their day or if they are just sensory quirks.

01

## **Identify the child's sensory preferences.**

Identify if those sensory preferences are significantly impacting the child's ability to get through their day or if they are just sensory quirks.

02

## **Trial and error to create a personalized sensory diet**

Use the child's sensory preferences to create a personalized sensory diet routine that the child can complete at home and at school (if applicable).

03

## **Collaborate with the child's team**

- Main caregivers
- School
- Daycare
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- Anyone who spends time around your child

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05

# Continuing education and research

- PESI
- Sensational Brain
- Primitive reflex integration

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# In the meantime...

**we want to provide you with some freebies we created just for you.**

To say thank you for joining us and to help you and your child get started on your sensory diet journey!



## Vestibular Seeking Sensory Diet Example

**SENSORY DIET**

**Vestibular Seeking Sensory Diet**

This Sensory Diet is perfect for kiddos who seek out vestibular input - always on the move, seeking out spinning and jumping, etc.

Have your kiddo check off the 'Done!' box when each activity is completed!

1	TO DO →	DONE!
2	TO DO →	DONE!
3	TO DO →	DONE!
4	TO DO →	DONE!
5	TO DO →	DONE!
6	TO DO →	DONE!

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## Vestibular Avoiding Sensory Diet Example

**SENSORY DIET**

**Vestibular Avoiding Sensory Diet**

This Sensory Diet is perfect for kiddos who avoid vestibular input - motion sickness, gravitational insecurities, dislike of swings, etc.

Have your kiddo check off the 'Done!' box when each activity is completed!

1	TO DO →	DONE!
2	TO DO →	DONE!
3	TO DO →	DONE!
4	TO DO →	DONE!
5	TO DO →	DONE!
6	TO DO →	DONE!

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## Outdoor Sensory Diet Example

**SENSORY DIET EXAMPLE**

**Outdoor Sensory Diet**

Getting outside in the sunshine, in the fresh air, can be very calming and grounding. Use this Outdoor Sensory Diet to take a break from schoolwork, housework, etc.

Have your kiddo check off the 'Done!' box when each activity is completed!

1	TO DO →	DONE!
2	TO DO →	DONE!
3	TO DO →	DONE!
4	TO DO →	DONE!
5	TO DO →	DONE!
6	TO DO →	DONE!

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## Sensory Preferences Checklist

**Sensory Preferences Checklist**

NAME: \_\_\_\_\_ AGE: \_\_\_\_\_ DATE: \_\_\_\_\_

In each section, check all that apply to the child. Identify which category the child fits into. Are they more over-responsive or under-responsive? Are they seeking sensory input? Or are they a mix of all of the above?

Understanding the child's sensory preferences is the first step to helping them meet their unique sensory needs! This is not a standardized checklist or diagnostic tool. Observational only of sensory processing disorder symptoms.

**SENSORY MODULATION DISORDER VISUAL SYSTEM**

Over Responsive Under Responsive / Sensory Seeking\*

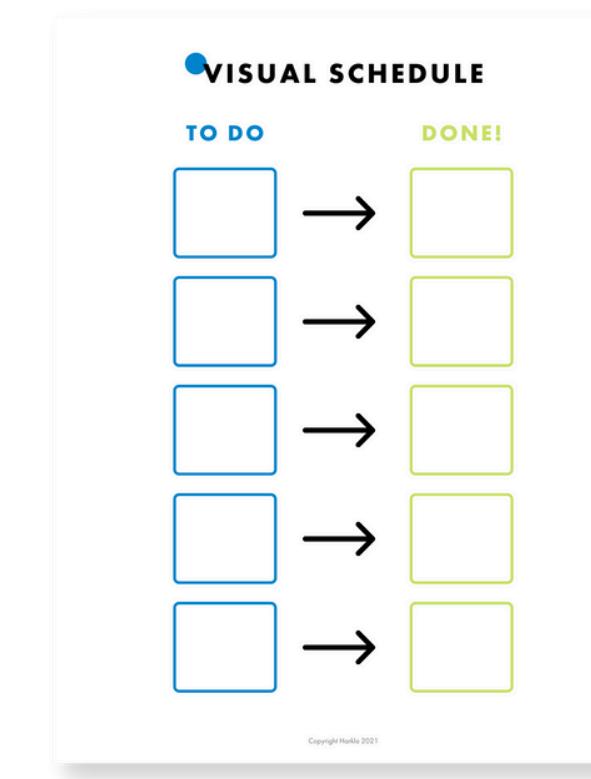
<input type="checkbox"/> Unable to tolerate bright lights	<input type="checkbox"/> Loves bright lights and bright colors*
<input type="checkbox"/> Difficulty locating items in a visually busy environment	<input type="checkbox"/> Prefers fast moving visual input*
<input type="checkbox"/> Avoids eye contact	<input type="checkbox"/> Challenges with visual motor (hand-eye coordination) tasks for their age
<input type="checkbox"/> Frequent headaches or eye fatigue during visually stimulating tasks (reading, writing)	<input type="checkbox"/> Poor handwriting for their age
<input type="checkbox"/> Difficulty focusing on a task when in a visually busy environment	<input type="checkbox"/> Loves to spin and/or move fast*
<input type="checkbox"/> Dislikes visually busy environments (may act fearful or avoid)	<input type="checkbox"/> Frequently seems oblivious to surrounding visual input
	<input type="checkbox"/> Loses place while reading (after age when should be a proficient reader)

\*Indicates sensory seeking behavior. Sensory seeking is when the body "Yearns" like it doesn't get enough, so you will seek MORE of that input throughout the day and will seem "on the go."

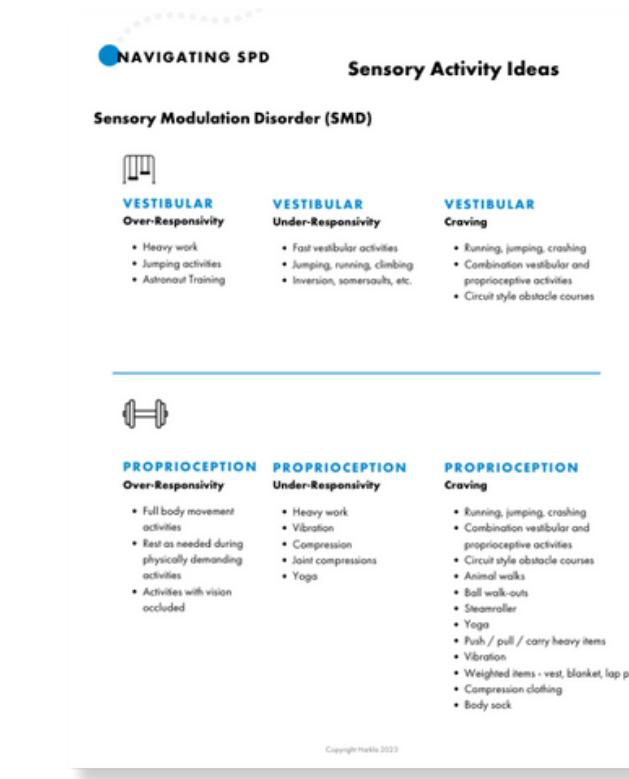
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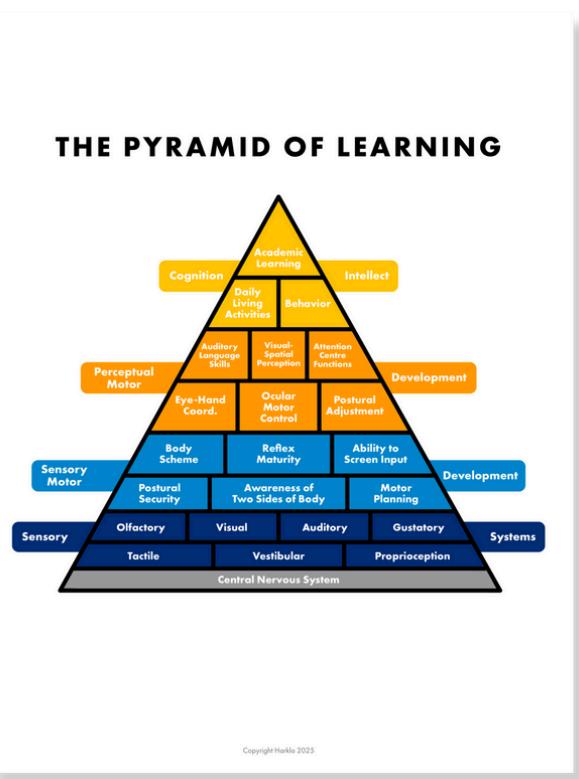
## To Do - Done Visual Schedule

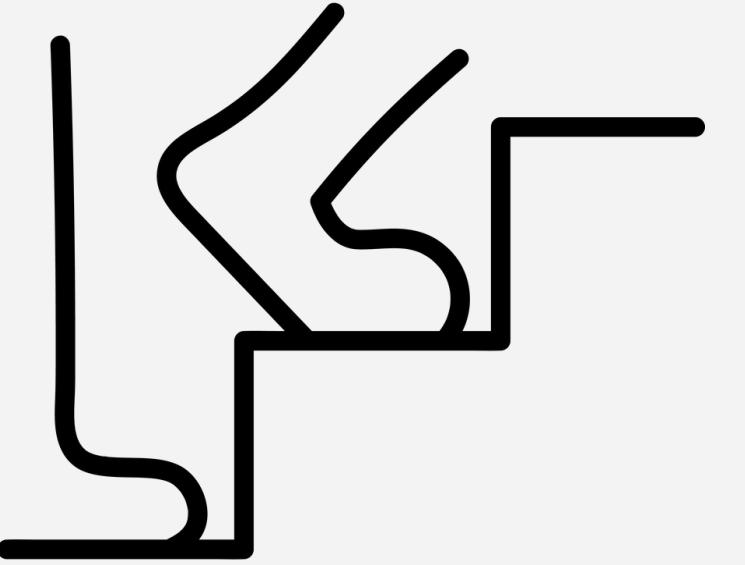


## Sensory Activity List



## Pyramid of Learning Visual





**Ready to take  
the next step?**

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# Now that we've gone over SPD and some strategies ...

## Check out our full length course:

### Creating and Implementing Sensory Diet Routines to Improve Daily Activities



**This course provides you with all of the information you need for your sensory diet journey!**

01

**A deep dive into sensory processing disorder, emotional intelligence, and meeting the sensory threshold.**

02

**A library of sensory activities and strategies to use in your child's sensory diet.**

03

**Resources for a variety of sensory diets, including on-the-go and at school.**

# Sensory Diet Digital Course

8 Modules



MODULE 1

**What is Sensory Processing?**

MODULE 2

**What is a Sensory Diet?**

MODULE 3

**Sensory Preferences & Emotional Intelligence**

MODULE 4

**Sensory Activity Toolbox**

MODULE 5

**When to Use a Sensory Diet**

MODULE 6

**Using Visuals**

MODULE 7

**Put it All Together!**

MODULE 8

**Sensory Diets for Different Situations**

BONUS

**Tips and Tricks, Adult Sensory Diets, and More!**

# Each module includes:

## VIDEO AND DEMOS



## PRINTABLE DOWNLOADS



## COMMENT FORUM

this is awesome material!

10 MONTHS AGO

My grandson is on the spectrum and figuring out his triggers (basically on our own/pandemic no help) has been tricky. We call it the daily roller coaster ride. Will this course be available for me to watch again, or is this a one time shot?

Rachel Harrington, COTA/L, AC & Jessica Hill, COTA/L

10 MONTHS AGO

INSTRUCTOR

Hey Amy!

Totally empathizing with you right now regarding how the pandemic has created such a challenge with families!!

As far as the course availability - YES! You have lifetime access and can watch / use everything whenever you need!

Feel free to reach out with any questions or concerns at any time!

- Jessica

REPLY

# Offered in 2 Course Options:



## AOTA CEUs

This course is approved for .55 AOTA  
CEUs or 5.5 contact hours

.55 AOTA CEUs

\$129

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Provides continuing  
education hours approved  
by AOTA for occupational  
therapists and occupational  
therapy assistants



## Master

\$69

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Designed for parents,  
educators and therapists  
looking to more thoroughly  
and comprehensively  
expand their knowledge on  
sensory processing  
challenges and how to  
incorporate customized  
sensory activities into the  
daily routine.



**AOTA CEUs**

**.55 AOTA CEUs**

# Physical Workbook Included!

## 100+ Pages of incredible course content

All of our PDFs printed and organized in a workbook that includes sensory preferences checklists, premade sensory diet templates, the sensory diet activity toolbox, and cut out activity cards of exercises and strategies for sensory and emotional regulation. Everything you need in one place to reference quickly and efficiently!



# **Plus, you get lifetime access and can go at your own pace!**



This course is not a limited time offer. Once you purchase, it's yours forever! Plus, any updates or additions that happen in the future - you get instant access to all of it at no additional cost!



This course is 100% self-paced. You can start and stop at any time, plus your spot is saved so you don't have to search around if you leave and come back later!



You have access to us, whenever you need! Send a question and one of us will get back to you as soon as we can!

# You also get the Harkla Happiness Guarantee!

If you go through the course and you're not satisfied, we guarantee your money back!



# Sensory Activity Dice

## Engaging & Easy to Use:

Simply roll the dice and follow the activity for instant sensory input.



## Three Targeted Sensory Goals:

Calming (Blue), Alerting (Orange), and Focus (Green) to help children self-regulate.

## Safe & Durable:

Made from soft, non-toxic foam, perfect for home, classrooms, and therapy settings.

## Bonus Video Activity Library:

Get free guided demonstrations from Rachel and Jessica to strengthen understanding and results.



# Sensory Activity Sticks

## Engaging & Easy to Use:

Simply choose a stick and follow the activity for instant sensory input.



## Three Targeted Sensory Goals:

Calming (Blue), Alerting (Orange), and Primitive Reflex (Purple) to help children self-regulate.

## Safe & Durable:

Made from flexible, non-toxic polypropylene, perfect for home, classrooms, and therapy settings.

## Bonus Video Activity Library:

Get free guided demonstrations from Rachel and Jessica to strengthen understanding and results.



# Thank you!

## Additional Resources

[Podcast: All Things Sensory by Harkla](#) 

[The Sensory Diet Digital Course](#) 

[Harkla Sensory Products](#) 

## Disclaimer

While we make every effort to share correct information, we are still learning. We will double check all of our facts but realize that medicine is a constantly changing science and art. One doctor / therapist may have a different way of doing things from another. Do not use this webinar as medical advice to treat any medical condition in either yourself or your children. Consult your child's pediatrician/ therapist for any medical issues that he or she may be having. This entire disclaimer also applies to any guests or contributors to the webinar. Under no circumstances shall Rachel Harrington, Harkla, Jessica Hill, or any guests or contributors, as well as any employees, associates, or affiliates of Harkla, be responsible for damages arising from use of the webinar.

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