

Simple Sensory Guide

Sensory Processing

Sensory Processing is how the brain receives and responds to sensory information from the environment and our bodies. It allows us to make sense of ourselves and the world around us and helps us form appropriate motor and behavioral responses. Sensory input is like food for the nervous system and helps the body and brain develop. Everyone has different thresholds for sensory input. Some children can be hyper-sensitive to certain types of sensory input and have strong emotional reactions or avoid it (e.g. hold their hands over their ears with loud noises). Others can be hypo-sensitive to certain types of sensory input and not seem to notice what is going on around them or seek out more of it (e.g. touching everything).

In addition to the 5 commonly-known senses (touch, sight, sound, taste, and smell), there are 3 lesser-known senses that play a key role in sensory processing:



Proprioception: receptors in our joints and muscles tell us where our bodies are in space and help us coordinate movements effectively



Vestibular System: receptors in the inner ear monitor the motion and position of our head in space and help us keep our balance



Interoception: receptors in the organs and connective tissue detect internal bodily signals, such as hunger, thirst, heartbeat, toileting needs, and emotions

My Child

← Is hyper-sensitive to...

→ Is hypo-sensitive to...

Prefers sedentary activities, difficulty with coordination	Proprioception	Always on the go, finds opportunities to climb, bumps / crashes into things
Motion sickness, dislikes being upside-down, prefers feet on the ground	Vestibular	Loves to spin, rock, roll, and be upside down
Frequently complains of bodily aches, feels anxious about internal sensations	Interoception	Doesn't notice when hungry or thirsty, hard time potty-training
Dislikes messy textures, distressed during grooming tasks	Touch	Touches everything, can't get enough of messy play
Picky eater by taste, texture, or temperature	Taste	Puts non-food items in mouth, loves strong flavors
Holds hands over ears, startles easily with unexpected noises	Sound	Makes strange noises for fun, seems to tune you out
Holds hands over eyes when bright outside, overwhelmed when there is a lot to look at	Sight	Enjoys bright colors, difficulty finding an item when it is amongst other belongings
Complains of smells others are not bothered by	Smell	Frequently smells toys / items



Strategies

Proprioception

Hyper-sensitive: While some children may prefer to not move as much, movement is important for their sensory and motor development. Encourage lower impact movements, such as going for a walk or crawling through tunnels. Combine preferred activities with movements; for example: have them crawl over cushions to retrieve one puzzle piece at a time if they like puzzles.

Hypo-sensitive: When a child is seeking movement opportunities or needs more to fill their cup, it is helpful to view movement as food for their body. Their body needs it to feel satiated and regulated. Find alternatives if they are seeking movements in inappropriate ways, such as having them push a laundry basket filled with toys to the end of the hallway instead pushing their sibling. Provide frequent opportunities to move: make obstacle courses out of blankets and cushions, use movement toys, go to the park, or have them do animal walks around the house.

Both: Heavy work (pushing, pulling, or lifting heavier items) is an excellent way to develop proprioception. Have kids help with household tasks, such as carrying laundry to the laundry room, moving laundry from the washer to the dryer, cleaning windows, wiping tables, watering plants, and unloading groceries. Deep pressure can be a more calming form of proprioceptive input. Press pillows on top of your child slowly, allowing them to choose how much pressure to apply while pretending to make them into a sandwich with a lot of silly ingredients. Wrap them up tight in a blanket to make them into a burrito. These can be calming pre-bedtime activities!

Vestibular

Hyper-sensitive: An over-reactive vestibular system can cause a child to feel anxious about having their feet off the ground or having their head tilted off-center. Start with movements the child is comfortable with and work up from there while providing a lot of encouragement. If they are comfortable sitting on a swing that is not moving, will they let you swing them a tiny bit while holding onto them? If they are comfortable jumping on solid ground, will they try jumping on a trampoline or off a step? Challenge them to spin around just three times, moving as slowly as they would like. If they get dizzy easily, have them push their head against your hand or do some “heavy work” (push / pull / lift heavier items) to help them feel more centered.



Hypo-sensitive: Provide plenty of opportunities to rock, roll, swing, and spin! Ask them to roll across the room like a log. Set up a swing in the backyard. Use scooters and bikes. Count how many times they can spin around. If they become over-excited by these movements, encourage them to focus on an activity while doing these movements. Examples: hit a balloon back and forth while they are on a balance board, play “I spy” while they are swinging, or jump on a sequence of colored dots drawn in chalk on a trampoline.

Both: Rocking, rolling, swinging, and spinning to whatever extent the child is comfortable with will help develop the vestibular system! Challenge their balance by walking over cushions, saving stuffed animals from an imaginary river as they walk across a balance beam / line taped on the floor, or see how long they can stand on one foot like a flamingo.

Interoception

Hyper-sensitive: If your kiddo is extra sensitive to their bodily sensations, it can help to incorporate relaxation strategies and mindfulness. Have them try to only focus on how their hands feel for one minute. Play “I Spy” to help them pay more attention to external stimuli. Hold a stuffed animal while really focusing on how it feels.

Hypo-sensitive: If your kiddo is having a hard time registering their toileting, hunger, and thirst needs, set different timers to cue them to use the restroom, eat a snack, or drink water. Visual schedules that cue them to complete these tasks before / after other daily activities can also help them stay on top of their bodily needs. Help them tune into their bodies by doing body scans and talking about how different sensations feel in your body.

Both: Many strategies can be beneficial for kids on both ends of the sensitivity spectrum for interoception. Heavy work, deep pressure, yoga for kids, mindfulness activities, and naming / talking about different emotions are all great for the development of this sense. Take deep breaths (pretending their fingers are candles they need to blow out one-by-one or pretending their hands are a balloon they are blowing up can make taking deep breaths more fun). Do a 5 senses mindfulness exercise by having them identify 5 things they can see, 4 things they can feel, 3 things they can hear, 2 things they can smell, and 1 thing they can taste (or just focus on one of these senses at a time).

Touch

Hyper-sensitive: If your child is sensitive to certain textures of clothing, try to find clothes they do feel comfortable in (cut out tags, buy seamless socks / underwear, and experiment with different fabrics and fits). Offer safe ways to explore non-preferred textures that the child feels comfortable with – have them wear a glove while finger painting or playing with sand, let them watch as you engage with different materials, and demonstrate how you can wipe messes off your hands if you don’t like how they feel.



Hypo-sensitive: If your child seems insatiable when it comes to touch, provide them with a variety of ways to engage this sense. Finger paint with paint that has been in the refrigerator or draw on a hot sidewalk with ice cubes. Take a mud bath. Have them choose a fidget to take into stores to help redirect them away from items on shelves. Have them reach inside a bag of household objects (coins, utensils, rubber bands, uncooked pasta, beads, cotton ball, etc.) and guess what they are feeling without looking at it. Make a texture board out of sandpaper, turf, different fabrics, cotton balls, pipe cleaners, carpet squares, and anything else you can think of.

Both: Offer frequent opportunities to explore different textures, but don't force exploration. Finger paints, sand, mud, shaving cream, bins of dry beans / rice / pasta, and water play can all be fun options!

Taste

Hyper-sensitive: If your child is more on the picky side, there are fun ways to encourage them to expand their preferences. Don't force them to try new foods, but provide opportunities. Put a bowl of fruit on the table when they're coloring or doing another activity. Model trying new foods. Encourage them to try just smelling or licking a new food without the pressure of putting it in their mouth. Make a list of "green foods" that they like, "yellow foods" that they tolerate, and "red foods" that they do not like. Aim to provide a combo of green and yellow foods at every meal. Play "food detective" by placing either a green or yellow food in their mouth without them looking at it and have them identify different qualities of the food (hot, cold, sour, sweet, salty, soft, crunchy, chewy, etc.) without labeling it yummy or yucky. Provide a cup they can spit the food into if they don't want to chew and swallow it to help them feel more safe and in control.

Hypo-sensitive: Food detective can be a fun game for kids who enjoy a variety of flavors as well! Include foods with stronger flavors, like sour and spicy. Include strong flavors at each meal, perhaps allowing the child to explore creating different flavors with spices and seasonings. Include crunchy and chewy textures and foods with different temperatures.

Both: Allow children to contribute to meal planning by choosing one new vegetable or fruit to try per week. Include them in meal prep by having them wash produce, chop foods with a kid-safe knife, and make food art on their plate. Introduce a variety of flavors and textures and role model eating a variety of healthy foods.



Sound

Hyper-sensitive: Noise cancelling headphones or ear plugs can help block out irritating sounds and chewing gum can help kiddos stay more regulated when there are loud noises. Give them control of how close / far they are from noises and provide warnings

before making a loud noise, such as turning on the blender or vacuum. Give them the option of turning loud items on / off. Nature sounds like birds and water can be soothing.

Hypo-sensitive: Sometimes hypo-sensitivity can be mistaken for poor behavior / inattention. Make sure your child is looking at you before providing instructions. Use visual instructions in addition to verbal instructions if the child has a hard time following verbal instructions. Provide appropriate times for creating loud noises and listening to loud music.

Both: Games like Simon says, red light-green light, telephone, and freeze dance can strengthen auditory processing / listening skills. Have them complete simple movements, like marching, tapping their knees, jumping jacks, or wall push-ups along to the beat of a metronome. Give them challenges to remember and complete a sequence of movements (i.e. do 3 jumping jacks, bear crawl to the couch, and then spin around).

Sight

Hyper-sensitive: Maintaining an environment with minimal clutter and decorations helps children feel more calm when they are hyper-sensitive to visual stimuli. Encouraging them to wear a hat in overstimulating environments can help block out excess stimulation. Consider prioritizing neutral colors and dimmable lighting when decorating their room and your home.

Hypo-sensitive: Bright colors, bold patterns, and wall art can make it easier for a child to pick up on visual stimuli when they do not register it as easily. Highlight written instructions or put them on colorful paper. If they have a hard time finding items, such as their shoes, create a consistent place they can put them by making a square out of tape or posting a picture of the items where you want them to keep them.

Both: Keep the environment organized and uncluttered. Matching games, memory games, puzzles, arts and crafts, and scavenger hunts can help the visual system grow and develop. Plenty of time outside can reduce the risk of developing near-sightedness, as the eyes must adjust to see further in the distance. Crawling is also excellent for the visual system, as the eyes must adjust between looking from close (their hands / the floor underneath them) and far (what they are crawling towards).



Smell

Hyper-sensitive: Focus on minimizing smells your child has a hard time tolerating. Consider unscented detergents, soaps, shampoos, lotions, and cleaning products. Giving your child a toy or necklace with a scent they like can give them something to distract from unwanted scents when out in public. Use aroma diffusers with calming scents your child enjoys.

Hypo-sensitive: Color with scented markers, play with scented play-dough, use scratch and sniff stickers, and explore the smells of different essential oils. Cook foods with strong flavors. Wear scented jewelry.

Both: Describe different smells of foods at mealtimes or use the sense of smell while playing food detective (described in taste hyper-sensitivity section). Have them smell items in cans and guess what they are (such as orange peels, herbs, pine needles, or flowers).



Thanks for learning about your child's sensory development!

I hope this guide helped you better understand sensory processing and how to support it! Play around with different strategies to find ones you and your child enjoy the most. This is a boiled down explanation of sensory processing, so if you'd like to learn more or receive more individualized support, I'd love to chat! I offer virtual consultations for parents to explore strategies that work well for their family. Schedule one here:

<https://www.empowering-play.com/services>



I'm Kali – pediatric occupational therapist, founder of Empowering Play, LLC, and child development enthusiast. I serve kids and their parents in Austin, Texas and the online space, helping them navigate sensory processing needs, daily living skills, and the joys and challenges of growing up in today's world. I love watching children and their parents become more calm, confident, and connected through nervous system regulation and play-based strategies.

Disclaimer: *This guide provides a simplified explanation of sensory processing and is intended for informational purposes only. It is not a substitute for a professional evaluation or occupational therapy services. Please consult a licensed occupational therapist if you have concerns about your child's sensory needs.*



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