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## SENSORY PROCESSING

We are all aware of the 5 senses: Tactile: sense of touch; Auditory: input relating to sounds; Oral: input relating to the mouth; Olfactory: input relating to smell; Visual: input relating to sight. However, there are two senses many are unaware of; Vestibular: response to movement and gravity and Proprioceptive: input from muscles and joints related to body position. New research since the Missouri Autism Guidelines Initiative was released suggests there is an eighth sense as well called Interoception. Throughout our body we have receptors that gather information and send messages to our brain which enables us to feel things such as hunger, fullness, itch, pain, body temperature, nausea, need for bathroom, physical exertion, and our emotions. This is how the interoception sensory system works.

These 8 senses work together (sensory integration) to take in information from the environment which allows the brain to use it and respond appropriately within that environment. Kids may have difficulty integrating sensory information such as listening to someone speak, seeing and hearing at the same time may seem awkward to them. Kids may also have difficulty interpreting information from their sensory systems which makes it difficult for them to process and respond within that environment. There are typically two general types of sensory disturbances, under sensitivity (too little input) and over sensitivity (too much input) however, a child may experience both and this can vary from day to day.

When children have under-sensitive responses, they seek out MORE sensory stimulation. Examples include:

- Crave spinning, fast, or intense movements
- Lack of awareness for personal space
- Constant need to touch people, textures, or objects when it's not appropriate
- Unable to sit still or extremely fidgety
- Very high tolerance to pain and/or not understand own strength
- Love jumping, bumping, or crashing activities
- Seek deep pressure like tight hugs
- Want to wear tight or heavy clothing
- Seek tactile activities/play
- Constantly wanting to chew or suck on objects/food

When children have over-sensitive responses, they will avoid or seek LESS sensory stimulation. Examples include:

- Unable to tolerate loud noises and easily distracted by background noise
- Sensitive to bright lights, may see the flickering in florescent lights
- Avoid touch, hugs, and cuddling (even from familiar adults)
- Dislikes tactile activities that might require getting hands dirty
- Refuse to wear clothing with tags or clothing that is too tight
- Fearful of swings, slides, and other playground equipment
- Problems with eating or extreme gag reflux

Strategies to try at home for your child when he/she is demonstrating an under-sensitive response:

- Roll up in a yoga mat or blanket like a burrito (only under adult supervision and should be discontinued if the child asks to be done)
- Utilize a weighted blanket or vest (typically effectiveness will wear off after 20 minutes and vest should be taken off)
- Wall push ups
- Wiping tables/counters or sweeping
- Jumping on a trampoline
- Wear compression clothing
- Play with thera-putty, playdough, shaving cream, bendy tubes, etc.
- Provide gum, mints, crunchy food, or a chewie to give oral stimulation
- Opportunities to spin on a sit-n-spin or swings counter clockwise and clockwise (It is important to keep in mind spinning can create over-stimulation and actually make a child sick so be very careful with spinning and swinging activities. If a child becomes pale or clammy to touch those are signs to stop)
- Create an obstacle course
- Joint compressions or tight bear hugs

Strategies to try at home for your child when he/she is demonstrating an over-sensitive response:

- Noise cancelling headphones for extremely noisy activities/places
- Wear a hat when going places with bright florescent lights
- Quiet calm space for child to retreat to when overwhelmed
- Verbal warnings before hugging or touching child
- Encouraging child to try new foods by slowly introducing it in steps (look at food, touch it, smell it, touch to tongue, then take a bite)

- Options for tactile activities that don't require messy hands (Legos, link chains, spinning gear magnetics etc.)
- Have a parent or sibling go down a slide with the child to give support or put a foam mat under slides or swing to give safety reassurance to child

It is important to note, you should still try the items or engage in activities the child is resistant to rather than avoiding them all together. Eventually many children become more comfortable in time. Just remember to take it slow, you and your child can have fun and increase sensory integration at the same time.

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