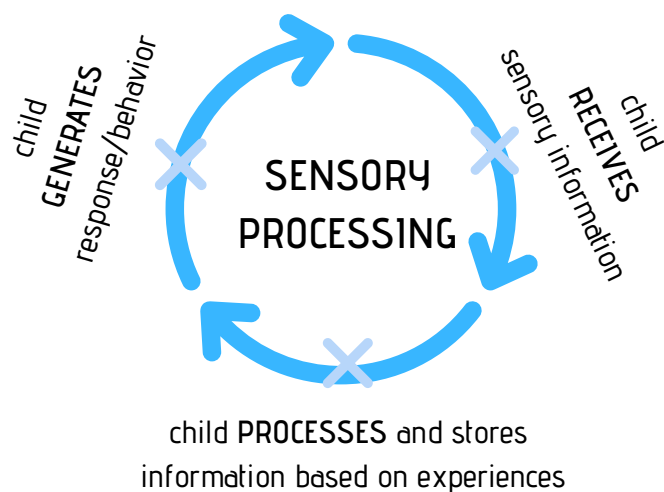


What is Sensory Processing?



Difficulty at any of these steps can result in

SENSORY DYSFUNCTION

which may be contributing to unusual behaviors, emotional outbursts, or difficulty completing every day activities



What might this look like in my child?

Every child uses information from their environment differently and has their own unique sensory experience.

SEEKER

Busier and more engaged in sensory experiences

May make noises while working, fidget, always touching things, chew on things, lack consideration for safety, very active and excitable

SENSOR

React more quickly and more intensely than others

Might appear cautious in some situations due to being overwhelmed, aware of everything in their environment without ability to handle it appropriately, may have meltdowns, cry, or hit others

AVOIDER

More likely to retreat from unfamiliar situations

Can be rule bound, ritual driven, or uncooperative because sensory input is difficult to understand/organize or might feel threatening

BYSTANDER

Miss more sensory cues than others

React slowly to rapidly presented or may not notice things in their environment that others notice, can be difficult to engage

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REFERENCES

About SPD. (n.d.) Retrieved January 8, 2020, from <https://www.spdstar.org/basic/about-spd>

Case-Smith, J. & O'Brien, J. (Eds.) (2015). Occupational therapy for children and adolescents (7th ed). St. Louis: Mosby

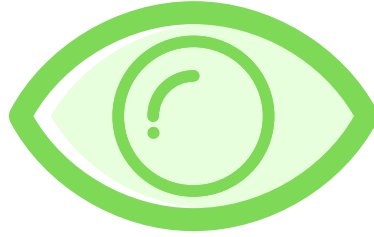
Dunn, W. (2006). Sensory Profile Supplement. San Antonio: The Psychological Corporation.

Dunn, W. (2007). Supporting children to participate successfully in everyday life by using sensory processing knowledge. *Infants and Young Children*, 5 (2), 84-101.

The Visual System

Vision is a dynamic process of identifying (what is this?), organizing, interpreting (what does this mean?) and understanding what is seen. Vision is a process that integrates sensory (what your body is taking in from the environment) and motor (how your body moves to react to information it gets) information generated by the brain and body to understand it and help you to decide what to do next.

What might this look like in my child?



What can I do to help my child?

Do you see these behaviors in your child?

- Unusual head tilt while looking at things
- Holds objects close to face
- Trouble finding objects in busy background
- Poor hand/eye coordination & depth perception
- Trouble copying work from whiteboard
- Confuses similar objects, shapes, and letters
- Difficulty spacing letters/words while writing



What can you do?

- Provide bright lights
- Create a colorful environment
- Utilize different shapes and objects
- Use of visual supports (contrasts, highlighting)
- Lava lamps
- Fish Tanks

Do you see these behaviors in your child?

- Eyes do not move together
- Difficulty focusing on faces or toys
- Inability to maintain gaze
- Sensitive to light
- Rubs eyes, covers eyes, squints
- Easily visually distracted
- Avoids eye contact



What can you do?

- Reduce lighting: turn off lights, dim lights, use blackout curtains
- Reduce visual distractions
- Provide sunglasses
- Limit screen time



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Bialer, D. S., & Miller, L. J. (2012). No longer a secret: unique common sense strategies for children with sensory or motor challenges. United States: BookBaby.

Case-Smith, J. & O'Brien, J. (Eds.) (2015). Occupational therapy for children and adolescents (7th ed). St. Louis: Mosby

Nackley, V. L. (2001). Sensory diet applications and environmental modifications: a winning combination. *Sensory Integration Special Interest Section Quarterly*, 24 (1).

Your 8 senses. (n.d.) Retrieved January 4, 2020, from <https://www.spdstar.org/basic/your-8-senses>

**Created by University of Pittsburgh Occupational Therapy Students:
Annie Benedek, Allison Herman, Portia Maravich, Ashley Martin, and Natalie Yosef**

The Vestibular System

The vestibular system is the body's first fully mature system. It develops from the inner ear and helps the body to understand where the head is in space. It is important for balance, posture, and our ability to keep our head upright and stable during movement.

What might this look like in my child?



What can I do to help my child?

Do you see these behaviors in your child?

- Constantly spinning or swaying
- Enjoys jumping
- High activity level
- Appears impulsive or unsafe



What can you do?

- Swinging or spinning
- Jumping on a trampoline
- Stand while completing work
- Hang upside down
- Jump rope
- Somersaults

Do you see these behaviors in your child?

- Dizziness
- Appears clumsy
- Overly cautious
- Fearful of movement
- Dislikes being upside down
- Dislikes being held



What can you do?

- Rocking back and forth on a rocking chair
- Slow, linear swinging
- Yoga
- Stretching of the head and neck slowly
- Slow rocking: lying on ground with knees tucked into chest rocking back and forth



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- Bialer, D. S., & Miller, L. J. (2012). No longer a secret: unique common sense strategies for children with sensory or motor challenges. United States: BookBaby.
- Case-Smith, J. & O'Brien, J. (Eds.) (2015). Occupational therapy for children and adolescents (7th ed). St. Louis: Mosby
- How does the balance system work? (n.d.). Retrieved from https://www.eyelandear.org.au/page/Patients/Patient_information/Balance_Disorders/How_does_the_balance_system_work/.
- Kenhub. (2019, December 24). Vestibular system. Retrieved from <https://www.kenhub.com/en/library/anatomy/the-vestibular-system>.
- Nackley, V. L. (2001). Sensory diet applications and environmental modifications: a winning combination. *Sensory Integration Special Interest Section Quarterly*, 24 (1).
- Parham, L. D., Clark, G. F., Watling, R., & Schaaf, R. (2019). Evidence Connection—Occupational therapy interventions for children and youth with challenges in sensory integration and sensory processing: A clinic-based practice case example. *American Journal of Occupational Therapy*, 73, 7301395010. doi:10.5014/ajot.2019.731002
- Your 8 senses. (n.d.) Retrieved January 4, 2020, from <https://www.spdstar.org/basic/your-8-senses>

The Tactile System

The tactile system detects light touch, pain, pressure, and temperature. It helps inform us if each of these sensations are pleasant and safe or unpleasant and potentially dangerous.

You may also hear this system referred to as the "somatosensory" system.

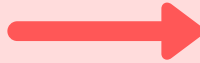
What might this look like in my child?



What can I do to help my child?

Do you see these behaviors in your child?

- High pain threshold
- Enjoys different textures
- Chews on everything, including inedibles
- Touches everything, appears very curious
- May not notice if they bump into things
- Holds things tightly
- Enjoys foods with intense flavor and textures
- May over-aggressively pet animals



What can you do?

- Create opportunities to touch different textures and materials: i.e. sensory bins
- Utilize chewies
- Sensory brushing (Wilbarger protocol - requires training)

Do you see these behaviors in your child?

- Touch can feel painful and uncomfortable
- Dislikes having things on hands and feet
- Does not like brushing hair and teeth
- Avoids certain food textures and temperatures
- Avoids standing in lines near others
- Does not like when hands are dirty
- Dislikes clothing textures, tags, seams
- May walk on toes
- Difficulty at bath time



What can you do?

- Wear comfortable and loose clothing
- Warn child / ask permission before you touch them
- Introduce new textures slowly
- Use deep pressure or vibration prior to an activity/task the child dislikes

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- Case-Smith, J. & O'Brien, J. (Eds.) (2015). Occupational therapy for children and adolescents (7th ed). St. Louis: Mosby
- Nackley, V. L. (2001). Sensory diet applications and environmental modifications: a winning combination. *Sensory Integration Special Interest Section Quarterly*, 24 (1).
- Tactile: Over Responsive (n.d.) Retrieved January 2, 2020, from <https://sensory-processing.middletownautism.com/sensory-strategies/strategies-according-to-sense/tactile/over-responsive/>
- Tactile: Under Responsive (n.d.) Retrieved January 2, 2020, from <https://sensory-processing.middletownautism.com/sensory-strategies/strategies-according-to-sense/tactile/under-responsive/>
- Your 8 senses. (n.d.) Retrieved January 4, 2020, from <https://www.spdstar.org/basic/your-8-senses>

The Auditory System

The auditory system allows an individual to sense, process, and understand sounds coming from their environment. This system's main functions include: processing the frequency of sound, recognizing and comprehending language, and filtering out sound. In general, this system allows us to distinguish what sounds are important and which are not.

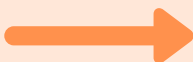
What might this look like in my child?



What can I do to help my child?

Do you see these behaviors in your child?

- May not respond to name being called
- Constantly responds "what?"
- Difficulty understanding others
- Listens to music and TV at high volumes
- May hum and make noises often
- May be very loud when completing activities
- Difficulty with reading and writing

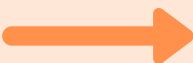


What can you do?

- Write down directions or use gestures when speaking to them
- Encourage use of toys that have music or sounds
- Use songs to enhance learning new skills
- Read sound books
- Play music in the background
- Have child sleep with fan or music

Do you see these behaviors in your child?

- Dislikes loud noises-covers ears frequently
- Reacts to background noises most people wouldn't notice
- May refuse or dislike loud public places
- Easily distracted
- Struggles academically
- May hide/cry from loud sounds (i.e. vacuum)



What can you do?

- Shut doors and windows to reduce outside noise
- Noise canceling headphones
- Prepare child if loud noises are expected
- Offer gum or crunchy snack or play light music as a distraction from irritating background sounds

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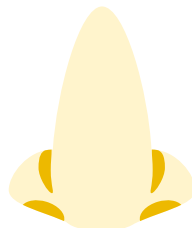
REFERENCES

- About SPD. (n.d.) Retrieved January 8, 2020, from <https://www.spdstar.org/basic/about-spd>
- Auditory: Over Responsive (n.d.) Retrieved January 2, 2020, from <http://sensory-processing.middletownautism.com/sensory-strategies/strategies-according-to-sense/auditory/over-responsive/#1>
- Auditory: Under Responsive (n.d.) Retrieved January 2, 2020, from <https://sensory-processing.middletownautism.com/sensory-strategies/strategies-according-to-sense/auditory/under-responsive/>
- Bialer, D. S., & Miller, L. J. (2012). No longer a secret: unique common sense strategies for children with sensory or motor challenges. United States: BookBaby.
- Case-Smith, J. & O'Brien, J. (Eds.) (2015). Occupational therapy for children and adolescents (7th ed). St. Louis: Mosby
- Nackley, V. L. (2001). Sensory diet applications and environmental modifications: a winning combination. *Sensory Integration Special Interest Section Quarterly*, 24 (1).
- Northrop, T. (2018). Occupational therapy's critical role in addressing sensory integration to increase academic progress and participation in schools. *SIS Quarterly Practice Connections*, 3(4), 8–10.
- Symptoms of Auditory Processing Disorder (APD) (n.d.) Retrieved January 2, 2020, from <https://www.auditorycenter.com/symptoms-of-auditory-processing-disorder-apd/>
- Your 8 senses. (n.d.) Retrieved January 4, 2020, from <https://www.spdstar.org/basic/your-8-senses>

The Olfactory System

The olfactory system detects scents in our environment and tells us if these scents are pleasant and safe, or unpleasant and potentially dangerous, to our bodies. This system is highly linked to the gustatory system (taste) and difficulties in this system can contribute to feeding issues.

What might this look like in my child?



What can I do to help my child?

Do you see these behaviors in your child?

- May often smell/sniff different items: shampoo, lotion, clothing, food, perfume
- May not notice smells or have a reaction to strong or unpleasant smells
- May lick objects to get a better sense of that item



What can you do?

- Scented play-doh or slime
- Scratch and sniff stickers
- Mr. Sketch markers
- Cooking/baking activities
- Scented sensory bins/bottles
- Strong smelling bath products
- Mint or cinnamon essential oils/scents

Do you see these behaviors in your child?

- Finds smells of food/objects overpowering
- May be a picky eater
- Makes faces or complaints about scents
- Avoids situations where they know they will encounter an unpleasant smell
- May dislike certain people with distinctive scents (strong perfume, clothing detergent)



What can you do?

- Unscented shampoos, lotions, and detergents
- Maintain a fragrance-free environment
- Allow child to choose shampoo, toothpaste, etc.
- Introduce new scents slowly
- Try to correlate smells with preferred foods

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- Case-Smith, J. & O'Brien, J. (Eds.) (2015). Occupational therapy for children and adolescents (7th ed). St. Louis: Mosby
- Nackley, V. L. (2001). Sensory diet applications and environmental modifications: a winning combination. *Sensory Integration Special Interest Section Quarterly*, 24 (1).
- Porter, P. (2017, July 14). The Sense of Smell: Olfaction • Sensory Processing Disorder. Retrieved January 9, 2020, from <http://sinetwork.org/sense-smell-olfaction/>.
- Sensory differences. (n.d.). Retrieved January 9, 2020, from <https://www.autism.org.uk/about/behaviour/sensory-world.aspx>.
- Smell Disorders. (2018, January 16). Retrieved January 9, 2020, from <https://www.nidcd.nih.gov/health/smell-disorders>.
- Your 8 Senses. (n.d.). Retrieved January 9, 2020, from <https://www.spdstar.org/basic/your-8-senses#f3>.

The Gustatory System

The gustatory system allows us to detect taste from our environment and tells us whether that taste is pleasant and safe or unpleasant and potentially dangerous to our bodies. This system is highly linked to the olfactory system and difficulties in this system can lead to picky eating and other feeding issues.

What might this look like in my child?



What can I do to help my child?

Do you see these behaviors in your child?

- Likes foods with intense flavor
- Places toys and other non-food objects in mouth
- Constantly chews on hair, nails, shirt, etc.
- Uses a lot of sauces and seasonings
- Enjoys vibrating toothbrushing



What can you do?

- Create a "No" bin to ask the child to place non-food objects in when trying to place in mouth
- Provide child with a small dish of sauce/seasoning to limit amount being used
- Chewing gum, crunchy cereal, dried fruits, raw vegetables
- Make time for oral activities: blow bubbles, drink liquids from a straw, blow up balloons

Do you see these behaviors in your child?

- Picky eater
- Finds some flavors too strong
- Dislikes certain textures
- May gag with non-preferred foods
- Dislikes the dentist
- Enjoys bland foods



What can you do?

- Gradually increase the amount of non-preferred foods on their plate during mealtimes
- Expose repeatedly to new foods
- Eat less preferred foods along with your child
- Positive reinforcement for trying new foods
- Do not force feed

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REFERENCES

- Bialer, D. S., & Miller, L. J. (2012). No longer a secret: unique common sense strategies for children with sensory or motor challenges. United States: BookBaby.
- Caldwell, A.R., Skidmore, E.R., Raina, K.D., Rogers, J.C., Terhorst, L., Danford, C.A., & Bendixen, R.M. (2018). Behavioral activation approach to parent training: feasibility of promoting routines of exploration and play during mealtime (mealtime PREP). *American Journal of Occupational Therapy*, 72(6), 206205030p1- 7206205030p8.
- Case-Smith, J. & O'Brien, J. (Eds.) (2015). *Occupational therapy for children and adolescents* (7th ed). St. Louis: Mosby
- Cermak, S.A., Curtin, C., & Bandini, L.G. (2010). Food selectivity and sensory sensitivity in children with autism spectrum disorder. *Journal of the American Dietetic Association*, 110, 238-246.
- Cruwys, T., Bevelander, K.E., & Hermans, R.C. (2015). Social modeling of eating: a review of when and why social influence affects food intake and choice. *Appetite*, 86, 3-18.
- Green, R.J., Samy G., Miqdady, M.S., Salah, M., Sleiman, R., Abdelrahman, H.M., Al Haddad, F., Reda, M.M., Lewis, H., Ekanem, E.E., & Vandenplas, Y. (2015). How to improve eating behaviour during early childhood. *Pediatric Gastroenterology, Hepatology & Nutrition*, 18 (1), 1-9.
- Kerzner, B., Milano, K., MacLean, W.C. Jr., Berall, G., Stuart, S., & Chatoor, I. (2015). A Practical approach to classifying and managing feeding difficulties. *Pediatrics*, 135(2), 344-353.
- Maestro, S., Rosaria Cordella, M., Curzio, O., Intorcchia, C., Roversi, C., Rossi, G., Scardigli, S., Silvestri, V., & Calderoni, S. (2016). Parent-child interaction treatment for preschoolers with feeding disorders. *Israel Journal of Psychiatry and Related Sciences*, 53(3), 63-72.
- Marshall, J., Ware, R., Ziviani, J., Hill, R.J., & Dodrill, P. (2015). Efficacy of interventions to improve feeding difficulties in children with autism spectrum disorders: a systematic review and meta-analysis. *Child: Care, Health and Development*, 41(2), 278-302.
- Nackley, V. L. (2001). Sensory diet applications and environmental modifications: a winning combination. *Sensory Integration Special Interest Section Quarterly*, 24 (1).
- Paul, C., Williams, K.E., Riegel, K., & Gibbons, B. (2007). Combining repeated taste exposure and escape prevention: an intervention for the treatment of extreme food selectivity. *Appetite*, 49, 708-711.
- Sackett, D.L., Rosenberg, W.M., Muir Gray, J.A., Haynes, R.B., & Richardson, W.S. (1996). Evidence based medicine: what it is and what it isn't. *British Medical Journal*, 312, 71-72.
- Yang, H.R. (2017). How to approach feeding difficulties in young children. *Korean Journal of Pediatrics*, 60(12), 379-384.
- Your 8 senses. (n.d.) Retrieved January 4, 2020, from <https://www.spdstar.org/basic/your-8-senses>

The Proprioception System

The proprioception system tells a person the location, position, and orientation of their body. It uses muscle, tendon, and joint movement to sense body position in space. This sensory process can be both conscious and unconscious.

What might this look like in my child?



What can I do to help my child?

Do you see these behaviors in your child?

- Stands too close to others, bumps into others
- Enjoys tight clothing
- Likes to be "squished" or hugged
- Enjoys tight spaces
- Difficulty navigating rooms/environments
- Breaks things easily, including pencils/crayons when writing
- Slams doors, walks loudly
- Misjudges weight of objects
- Does not like to over-extend joints/stretch
- Avoids rough play
- Holds objects very lightly
- Avoids weight bearing activities
- Avoids collisions
- Does not like clapping, slapping, or banging



What can you do?

- Deep pressure: massage, joint compressions, using mats/pillows to "squish" child
- Weighted blankets and vests
- Sitting in bean bag
- Heavy work: animal walks, pushing laundry basket, wheel barrow walks, carry books
- Apply deep pressure or have the child complete heavy work before doing school work

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- Nackley, V. L. (2001). Sensory diet applications and environmental modifications: a winning combination. *Sensory Integration Special Interest Section Quarterly*, 24 (1).
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