

# UNDERSTANDING THE SENSES

*This handout accompanies the "Module One: Understanding the Senses" video*

## DEFINING OUR SENSES

*Did you know we actually have 8 senses?*

- **Sight**- Our eyes interpret light waves and send messages through nerves to the brain, defining the world around us (light, dark, color, close, far, etc.).
- **Smell**- Small pieces of items in the air land on hair receptors in your nose where messages are sent to the brain. This sense is the only one that goes directly to the brain, therefore strongly affects memories.
- **Sound**- Sound waves vibrate through the inner ear before they are sent by the nerves to the brain.
- **Taste**- Food touches taste buds on our tongue which determine if it is sweet, salty, sour, or bitter. These messages are sent through nerves to the brain before we can decide if we like the food and if it is safe to eat.
- **Touch**- Several types of receptors in our skin detect sensations such as touch, pain, pressure, and temperature.
- **Movement (Vestibular)**- Parts of our inner ear tell our brain whether our body is in motion and what direction it is going
- **Body Awareness (Proprioception)**- Special cells in our joints sense where our body is in space and tell our brain where we are, how to move, and if we are stable.
- **(Internal Senses) Interoception**- Cells and chemicals in our organs send sensations such as heart rate, respiratory rate, pain, nausea, hunger, thirst, feeling full, and the urge to use the restroom.



### TRY AT HOME ACTIVITY:

*Review the pictures below and list which sensory systems the child is using to participate appropriately. Remember, effective Sensory Processing often involves multiple systems working together.*



# OUR SENSES OVER TIME

AS A CHILD'S BODY GROWS, SO DOES THEIR ABILITY TO USE SENSES TO UNDERSTAND AND LEARN FROM THEIR ENVIRONMENT. BELOW IS A SUMMARY OF THE PATTERN OF TYPICAL DEVELOPMENT.

- **Birth to 2 years:** children in this age group are exploring their new world through their senses. Even a newborn will begin to use their senses to recognize caregivers and feel comfort. As they grow and learn to start moving their bodies, senses such as eyesight and smell motivate them to explore their environment. They continue to use these early experiences to build regulation skills with the help of their caregivers. Children in this age should follow items with their eyes, respond to noises, place a variety of items in their mouth and tolerate attempts from caregivers to help them soothe.
- **2 to 4 years:** children in this age group are beginning to develop their sense of self and foundational skills for communication and self-regulation. They continue to use their senses to learn their environment and encourage communication. They should tolerate a variety of experiences. However, they may also start to have preferences and they will let adults know! This may result in some age-appropriate tantrums, picky eating, or other power struggles. However, if these preferences make it hard for your child to do daily activities, or you have other concerns, bring them up to a medical provider. Early intervention is key to setting them up for success!
- **6 to 8 years:** children of this age continue to grow and develop, learn how to navigate the world around them and what interests them the most. Senses help guide their interests and their attention to tasks. Most children by this age can use multiple senses to complete age-appropriate tasks independently. Children who are displaying signs of sensory dysfunction (like those mentioned in the accompanying video) at this age should be evaluated by an Occupational Therapist to learn more strategies for success.



## TRY AT HOME ACTIVITY:

*Take a moment to think about what experiences your child may have had that could have affected their sensory system development?*

*If you are unsure where to start, ask their case manager some of the questions found on this handout. You can also explore information from the TBRI Institute or the ACEs study.*



## A NOTE ON TRAUMA

Many children in foster care experience trauma. Trauma at any age can drastically affect development and the sensory systems are no different. Use the QR codes below to explore two exceptional resources that can help you better understand what trauma is, how it can affect a child's sensory development and what resources you can access to support your family.



Toxic Stress and the Brain from Trauma Based Relational Intervention (TBRI)



THE CDC'S FACT SHEET ON ADVERSE CHILDHOOD EVENTS (ACEs)

# QUESTIONS TO ASK:

LEARNING ABOUT A FOSTER CHILD'S SENSORY NEEDS BEFORE THEY COME INTO YOUR HOME MAY BE EASIER SAID THAN DONE. BELOW ARE SOME OPEN-ENDED QUESTIONS YOU CAN ASK PREVIOUS CAREGIVERS THAT MAY GIVE YOU AN IDEA OF ANY UNIQUE NEEDS THEY MAY HAVE. OUR NEXT MODULE WILL COVER STRATEGIES TO TRY.

- WHAT ARE SOME OF HIS/HER FAVORITE PLAY ACTIVITIES?
- DO THEY EVER HAVE DIFFICULTY CALMING DOWN AT NIGHT?
- DO THEY HAVE ANY FOODS THEY WON'T EAT?
- WHAT KINDS OF CLOTHES ARE THEY MOST COMFORTABLE IN?
- TELL ME ABOUT THEIR MOST CHALLENGING TIME OF DAY
- DO THEY HAVE A HARD TIME FOCUSING ON A SINGLE ACTIVITY?
- HAVE THEY EVER HAD DIFFICULTY WITH BEHAVIOR IN SCHOOL?
- DO THEY TAKE DANGEROUS RISKS WHILE PLAYING?
- HAVE THEY EVER BEEN SEEN BY AN OCCUPATIONAL THERAPIST, OR HAS IT BEEN RECOMMENDED?



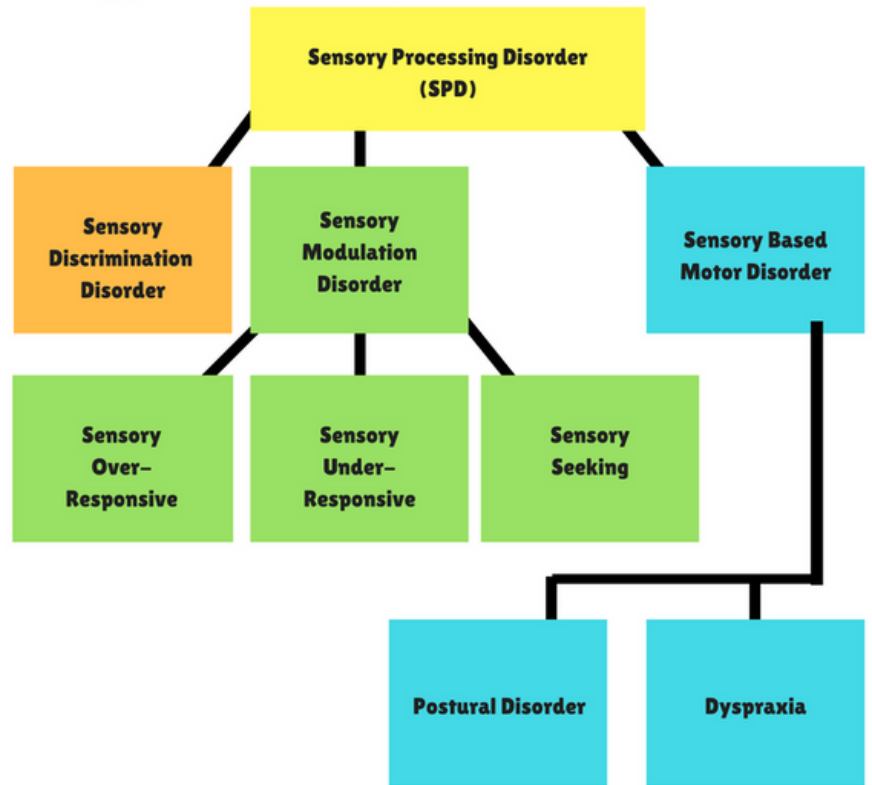
## TRY AT HOME ACTIVITY:

*Do you believe your child may be dealing with Sensory Regulation difficulties?*

*Use the QR code below to complete the "Do You Know Me?" Checklist from the STAR Center. You can use this form to discuss your concerns with your child's medical and educational team members.*



# Types of Sensory Processing Disorders



THE OT TOOLBOX.COM

# WHEN TO ASK FOR SUPPORT

All humans have "sensory preferences" that we use daily to help us focus, calm down, prepare for tasks, and enjoy our free time. Some examples of these include preferring adventure sports, needing silence to work, liking spicy food, enjoying loud crowded concerts...and the list goes on! As adults, we have the freedom to regulate ourselves as needed and we have learned strategies that work for us over time.

For children, learning these strategies is part of growing up and they often have far less flexibility in how and when they can use them. However, if a child's sensory needs limit their ability to complete daily activities like academic tasks, make friends, sleep, eat, take care of themselves or have fun, it is probably time to ask for support. If your child is enrolled in Public Schools, you can ask for an Assessment through Special Education. However, if their difficulties are not significantly impacting their academic performance, they may not qualify for school-based services. You can also ask your pediatrician for a referral to an outpatient Occupational Therapist to complete a formal sensory assessment prior to starting care, if necessary.