

SENSORY PROCESSING AND PRACTICAL STRATEGIES FOR SELF REGULATION



*CHAIMAA REGRAGUI, MS, OTR/L
CLINICAL DIRECTOR OF OT SERVICES*

WHAT IS SENSORY INTEGRATION?



- Sensory processing or sensory integration is a neurological process that occurs in all of us.
- We constantly take in sensory information through our bodies from the world around us. As our brains organize or integrate this sensory information it becomes meaningful to us.
- Normal sensory integration allows us to respond to the specific sensory input we receive automatically, efficiently and comfortably.

THE FAMILIAR SENSES



We have 5 familiar senses that respond to sensory input from outside of our body.

- Auditory (sound) -Information through the ears
- Gustatory (taste) -Information through the mouth
- Olfactory (smell) -Information through the nose
- Visual-(seeing) -Information through the eyes
- Tactile (touch) -Information through the hands & skin

THE HIDDEN SENSES



We have 2 hidden senses that respond to sensory input *inside* our body.

- **Vestibular** – Information about movement through the inner ear
- **Proprioceptive** - Information from muscles, ligaments, and joints

THE TWO HIDDEN SENSES: VESTIBULAR AND PROPRIOCEPTIVE



- We are not consciously aware of the hidden senses as we cannot control them or see them
- Along with the Tactile (touch) system, these 2 hidden senses are *fundamental* in laying the ground work for a child's healthy development.
- When the hidden senses operate automatically and efficiently a child is able to focus his eyes, ears and attention (familiar senses) to the task at hand.

WHAT IS SENSORY INTEGRATION DYSFUNCTION?



Sensory Integration Disorder
or
Sensory Processing Disorder

**The inability to take in, organize and respond
to sensory information in a
meaningful & appropriate way**

WHAT DOES IT LOOK LIKE?



- Some individuals may be overly sensitive, while others are under-responsive
- Everyone processes sensory input differently
- What matters: When any sensory input is negatively impacting the child's life & causing difficulties functioning in the environment (home, school)

An Occupational Therapist can guide programming to assist in alleviating the difficulties

WHAT DOES IT LOOK LIKE?

What can we do about it?



AUDITORY: Information through the ears (sound)

- Covers his/her ears during gym, music, fire drills, responds negative to loud noise

Strategies:

Ear phones/Noise cancelation headphones

Give advance warning (i.e. fire drill)

Sitting away from speakers or loud noises

Use White noise

Gradually introduce to busy places (i.e. go on train when its not rush-hour)

GUSTATORY: Information through the mouth (taste)

- Extremely picky eater
- Puts everything into the mouth

Strategies:

Encourage child to explore food, away from table if needed

Never force – take baby steps and make it a pleasant experience for child

Teach safety and cleanliness; look first, ask second, and then insert

Limit visual and auditory distractions

WHAT DOES IT LOOK LIKE?

What can we do about it?



OLFACTORY: Information through the nose (smells)

- Gags or feels sick around strong smelling foods
- Smells/sniffs everything they come into contact with

Strategies:

Desensitize-Expand repertoire of smells

Don't react as it may be them seeking attention

Move the food away that makes them gag rather than react

WHAT DOES IT LOOK LIKE?

What can we do about it



VISUAL: Information through the eyes, including sight

- Squints because light seems too bright
- Trouble focusing on any one object or person/too many difficulties
- Eye tracking difficulties

Strategies:

Sun glasses or brimmed hats

Lighting changes

I see a.....and let them search or track items/objects

Seated close to activities if they have vision problems

Reduce visual overload & De-clutter your class

Sort through toys and objects and store them in opaque containers with labels.

Avoid complicated prints and patterns on carpets and walls.

WHAT DOES IT LOOK LIKE?

What can we do about it?



TACTILE: Information through the layers of skin (touch)

- Over Responsive- Doesn't like glue, marker, or paint on their fingers or hands. Doesn't like to be touched. Avoids new textures.
- Under Responsive- Child doesn't notice food on their face/ messy eater. Seeks all kind of input and touches everything with pressure/force.

Strategies:

Cool whip with food coloring, foamy soap, finger paints (over sensitive)

Play-doh, sand play, water play (over sensitive)

Sensory bins with dry rice/ sand and other materials (over sensitive)

Big bear hugs often (under sensitive)

Engage in heavy work (under sensitive)

Explore new textures (oversensitive)

* NEVER FORCE ON CHILD AND MAKE IT ALWAYS A FUN AND SAFE ENVIRONMENT FOR CHILD*

WHAT DOES IT LOOK LIKE?

What can we do about it?



PROPRIOCEPTIVE: Information through the muscles and joints

- Appears clumsy, bumps into things, trips and falls
- Trouble learning new body movements

Strategies:

Wheelbarrow walks

Pushing wagon/ cart within limits

Wall pushes and wall pushups

Jumping Jacks

Assist with classroom chores (i.e. wipe table, push chairs)

Break down activities into smaller steps to help with motor planning

WHAT DOES IT LOOK LIKE?

What can we do about it?



VESTIBULAR: Information from movement

- Difficulty with motion, spinning, or swinging
OR
- Craves motion, spinning, and swinging

Strategies:

Introduce activities slowly

Slow linear movements (i.e. back and forth on the swing)

Never force a child

Repeat an activity that they like

Use of swings (i.e. spinning on the swing)

Bouncing on a large ball

Scooter boards

What happens when a child is distressed?



- Brain powers down
- Child can't process: listen or think
- May act out aggressively
- Child may shut down and not engage

WHAT TO DO?

Strategies when in distress:

Adult needs to introduce strategies to teach/help child to regulate

- Calm yourself: physiologically, mentally & emotionally (deep breaths, take a break, break box/ area)
- Meet basic needs: Food, Hydration, Health, Sleep

Preventative Sensory Strategies

GOAL: REMAIN REGULATED



Oral Input:

- Provide opportunities for chewy, crunchy, creamy foods
- Suck applesauce, yogurt or pudding through a straw
- Blowing bubbles, harmonica or kazoo, singing, playing instrument

Proprioceptive & Vestibular Input:

- Bounce, jump, run, spin, clap hands
- Provide naturally occurring job that involves heavy work: lifting, pushing, pulling, climbing stairs, crashing on a large wedge pad
- Deep pressure: bear hugs, steam rolling, body sox
- Brushing and joint compressions, massage (follow an O.T's recommendations)
- Weighted blankets, vests, lap buddies (follow an O.T's recommendations)
- Compression vests/garments (follow an O.T's recommendations)
- Seat cushion (follow an O.T's recommendations)
- Vibrating toys (follow an O.T's recommendations)

Preventative Sensory Strategies

GOAL: REMAIN REGULATED



- Rhythm calms; one beat per second is said to be the healthiest rhythm to slow down heart rate, speech & respiration to relax and calm. Beat on a drum one beat per second
- Swinging, rocking, walking, running
- Yoga exercises, deep breathing, meditation
- Play soft music, use white noise/ocean waves/ raindrops
- Dim the lights

OT Equipment



Seat Cushion: provides input and helps child remain seated and focused



Vibration toys : used for sensory input, calming and body regulation



OT Equipment

Compression Vest:

Provides deep input for those seeking deep pressure; helps child attend to tasks



Weighted Vest/ Lap pad:

Helps child focus and become calm in order to sit and attend

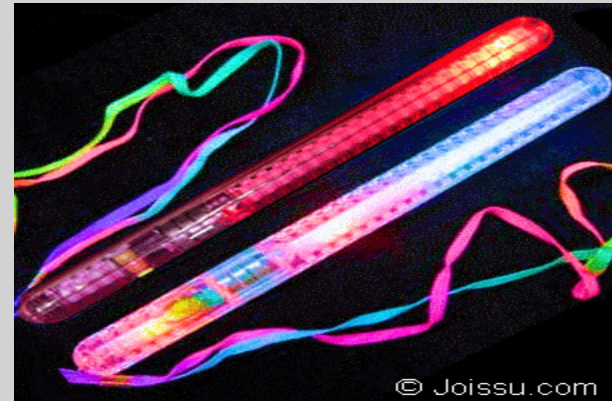


***Only used if recommended by the
OT ***

OT Equipment



Spinner Wand/Light toys: The color change properties have therapeutic benefits and stimulate the minds of children helping them identify a variety of colors. Kids find this relaxing.



SUPERVISION REQUIRED

*****AVOID IF CHILD HAS SEIZURES*****

OT Equipment



- **Thera Brush /Joint Compressions:** This is a sponge brush that is used for deep pressure on the arms, legs, and back. It is used to improve attention and to calm the body and for regulation during classroom activities. After brushing follow with joint compressions.



This should be demonstrated & taught to staff by an OT

OT Equipment



Body Sox : Used to provide proprioceptive input and a sense of body in space, body awareness, and help tactile defensiveness or sensory overload.

**SUPERVISION REQUIRED-
HEAD CAN'T BE INSIDE
& DO NOT FORCE ON CHILD**



OT Equipment



Fidget toys: For stress relief, building fine motor skills, and great for the sensory experience.



OT Equipment



Putty/Squishy ball: For stress relief, building fine motor hand strength, and great for the sensory experience.



SUPERVISION REQUIRED SO THAT CHILD DOES NOT BITE BALL OR EAT CONTENTS INSIDE

OT Equipment



Noise Cancellation Ear Muffs:

Block Out Background Noise to Reduce Stress and Anxiety. Minimize noise and maximize concentration.



Fiber Optics: Provides dazzling effects with relaxing and calming benefits from the fascinating sparkle effects.



OT Equipment



Discovery/Sensory bottles: A calm down bottle with water beads and glitter. Relaxing for the children to watch the glitter slowly swirl and then settle to the bottom



SUPERVISION REQUIRED-TAPE THE BOTTLE & MAKE SURE BOTTLE REMAINS CLOSED

Key points to remember



- We have 2 additional senses; the **vestibular** (movement/head position) and **proprioceptive sense** (body parts and body awareness).
- Sensory processing is the ability to take in/register information through our senses and environment and respond appropriately.
- Sensory difficulties result in Over-responsive (sensitive, defensive, avoider) and Under-responsive individuals (sensory seeker, on the go, bumps into things, falls).

Key points to remember



- The OT provides strategies/equipment to meet the child's sensory needs (alerting activities, heavy work, calming activities, massage, vibrations, vests, etc.) Everything is done with supervision.
- We always allow the child to explore and provide novel tasks and activities.
- Never force a child to engage in sensory activities that are of discomfort. Introduce activities slowly and watch child's reaction.
- Always meet the student at their level, provide eye contact, and meet their needs.

Discussion

