



What is OT



- Occupational therapy (OT) is the therapeutic use of self-care, work and play to increase independent functioning, including the adaptation of tasks and the environment (AOTA, 2018).
- Pediatric OT looks at a child's fine and gross motor skills, graphomotor skills (hand skills), activities of daily living, visual perceptual skills, and sensory integration.



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Sensory Processing Definition (Jean Ayers)


- In order for a person to move, learn, and behave normally, their brain must be able to organize the many sensations it comes into contact with.
- When the brain is well-organized it can locate, sort and order
- When the flow of sensations are disorganized, life can be like a rush hour traffic jam.




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Sensory Integration

- Sensory integration organizes sensation for use.
- Sensory Registration
 - We first become aware of a sensory event.
- Orientation
 - Allows one to pay attention to new sensory information being received.
- Sensory Interpretation
 - Allows us to determine what to respond to, if it is threatening and compare old experiences with new.



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Sensory Integration cont.

- Organization of Response
 - Our brain determines if a response to a sensory message is necessary.
- Execution
 - Dependent upon the previous components and adequate motor abilities.

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Difficulties in Sensory Integration


- What does it look like?
 - You see a child's reaction to the environment vs. their response.



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Possible Causes of SI Dysfunction

- Theories of causative factors:
 - Genetics
 - Increases in environmental toxins/air contaminants
 - Destructive viruses
 - Decreased oxygen at birth
 - Sensory deprivation from lack of exposure
 - Premature birth

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Diagnostic Process

- An evaluation typically consists of standardized testing, clinical observations, parent report-measures, and discussion with parents and professionals working with the child at school or in other settings.




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What is the OTs role when working with kids with Sensory Integration Dysfunction?

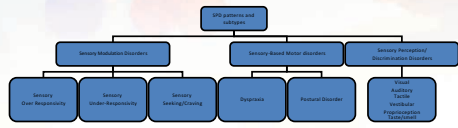
- Our goal is to help children respond rather than react to the environment.
- We provide a variety of sensory experiences that are given in the context of meaningful activities in a safe environment which improves their ability to integrate sensory information.



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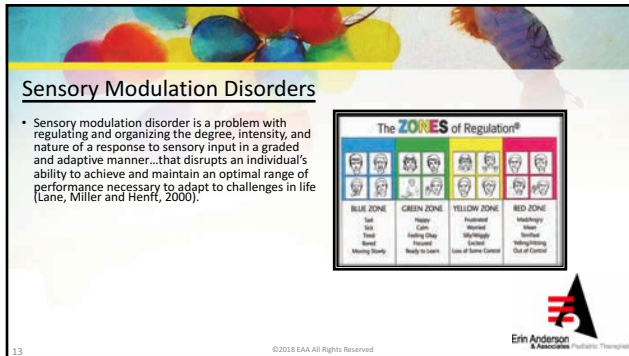
Sensory Processing Disorder Patterns & Subtypes



(Adapted from Figure 1.1 Classification of Sensory Processing Disorder Patterns & Subtypes - Miller, 2006)

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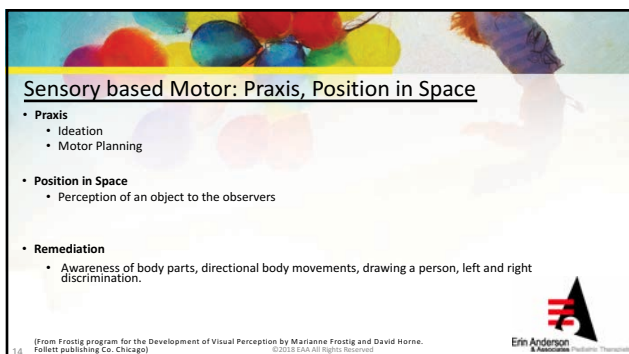


Sensory Modulation Disorders

- Sensory modulation disorder is a problem with regulating and organizing the degree, intensity, and nature of a response to sensory input in a graded and adaptive manner...that disrupts an individual's ability to achieve and maintain an optimal range of performance necessary to adapt to challenges in life (Lane, Miller and Henft, 2000).

BLUE ZONE	GREEN ZONE	YELLOW ZONE	RED ZONE
Self	Happy	Excited	Mad/Annoyed
Safe	Calm	Awake	Hyper
Still	Ready to Learn	Ready to Play	Ready to Fight
Ready to Learn	Ready to Play	Ready to Fight	Ready to Fight
Ready to Learn	Ready to Play	Ready to Fight	Ready to Fight

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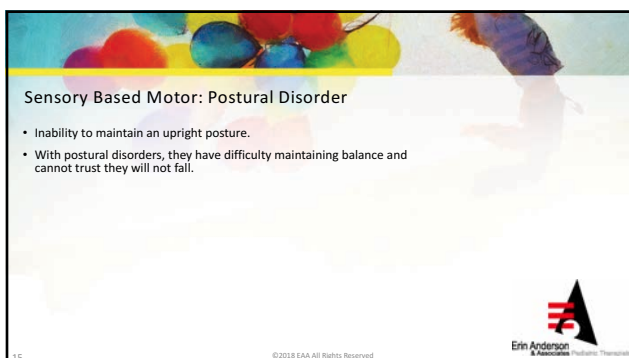


Sensory based Motor: Praxis, Position in Space

- Praxis**
 - Ideation
 - Motor Planning
- Position in Space**
 - Perception of an object to the observers
- Remediation**
 - Awareness of body parts, directional body movements, drawing a person, left and right discrimination.

(From Frostig program for the Development of Visual Perception by Marianne Frostig and David Horne. Follett publishing Co. Chicago)

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Sensory Based Motor: Postural Disorder

- Inability to maintain an upright posture.
- With postural disorders, they have difficulty maintaining balance and cannot trust they will not fall.

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Sensory Perception/Discrimination Disorder

- Visual (Eye)
- Auditory (Ear)
- Tactile (Touch)
- Taste/Smell (Mouth/Nose)
- Vestibular
- Proprioception

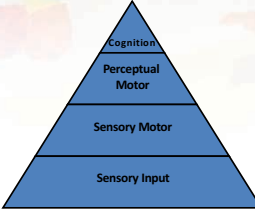


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Pyramid for Academic Learning

- **Cognition:** Daily Living Skills, Academic Learning, Social & Emotional Learning
- **Perceptual Motor:** Visual Motor, Eye-Hand Coordination, Auditory Language skills
- **Sensory Motor:** Postural Control, Body Awareness, Motor Planning, Bi-lateral Coordination, Reflex Maturation
- **Sensory Input:** Touch, Taste/Smell, Auditory, Vestibular, Proprioception, Vision



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Vestibular System

- Develops in utero, located in the inner ear.
- Gives us information about movement, gravity, and head position.
- Assists with balance and body posture.
- Difficulty with Vestibular System
 - Can be intolerant of excessive movement
 - Avoids or craves unsafe movement
 - Trouble with balance, disorganized




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Proprioception System

- Difficulty with Proprioception
 - Rely on vision to cope.
 - Trouble grading movements.
 - Demonstrate trouble with motor planning, fine and gross motor skills.




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Central Nervous System Pyramid


DO WE NEED THIS - SENSORY PYRAMID?



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Strategies and Treatment

- "Often in the school-based model, SI intervention is adaptation, modification, or compensation rather than habilitation, rehabilitation, or remediation" (Chandler, 2001, p.30).
- Consider the student's abilities, the school activities, and the educational environment.

- Ideas
- Ways to move
- Put something in your mouth
- Listening
- Use your hands
- Vision
- Calming Activities


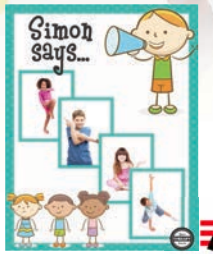


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Ways to Move

- Naturally occurring
- Quick movement break next to desks
 - Simon says (jumping jacks, spin around)
 - Energizers
 - <http://www.eatupartsmovement.com/Energizers/Texts/K-5-Energizers.pdf>
 - Drive Through Menus
- Encourage outside play
- Early Childhood ideas




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Put Something in Your Mouth


- Oral input can be very organizing for children. Oral input is the first way we learn to soothe ourselves (feeding, pacifiers, sucking thumb), and continues to be way that many children seek input for regulation.




Chews




Water bottles with straws



Crunchy and Chewy snacks



Gum or Hard Candy



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Listening

- Minimize background noise when possible. Often children with SPD notice sounds we do not and have trouble filtering them out - the lights buzzing, people walking in the hallway, the pencil sharpener.
- Unexpected noises can also cause a child to quickly become dysregulated (i.e. a door slamming)
- Offer a quieter space when possible if they seem like they are struggling
- Music in the classroom- classical music played at a low level can be very calming and organizing, and help to filter out other noises during academic tasks or transitions.

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Using Your Hands

- Children with SPD often seek tactile input. Needing to often touch objects.
 - Often getting into trouble when not keeping their hands to themselves.
- Tactile input given in the appropriate way can be very organizing for a child.
- Ways to get tactile input:
 - Fidget toy
 - Play dough, Koosh balls, play with materials such as rice, sand, flour, etc.
 - Heavy work for hands and arms (chair or wall push ups, wheelbarrow walks)
 - Weighted pencil or pencil with a fidget topper

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What Research Has Found About Fidgets

•Fidgets help improve concentration and the ability to listen!

•Holding something in the hands helps with organizing our vision and hearing (Neil, 1997)

•Good fidgets for listening allow simple, "in-between" explorations, are usually small, unobtrusive to our neighbors, and silent (Neil, 1997).


•Children reported having an increased positive attitude, improved writing, and positive peer interactions (Stahley & Brasell, 2006).

•Students were less distracted and increased attention span during both direct instruction and independent activity while using a stress ball (Stahley & Brasell, 2006)

Fidgets are great when you need to sit still, listen, and stay awake...

No matter how old you are...try some!

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Vision

- Minimize visual clutter
 - Remove/cover items on the wall and desks.
- Provide visual schedules
- Placement in room-some children are easily visually distracted or overwhelmed by visual stimuli, placing them in front, for example, may help.
- Adaptation of papers, as too much visual information on a page can be overwhelming.
 - Highlighting specific areas, covering/blocking parts of the page, using a tracker when reading.

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Adaptations and Compensatory strategies

- Minimize over-stimulating sensory information
- Exaggerate and define boundaries
- Increase the predictability of events and stimuli
- Provide visual cues, schedules
- Minimize tactile demands
- Do work taped to the board or easel

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Expected Outcomes from Sensory Processing Intervention

1. Increase in the frequency or duration of adaptive responses.
2. Development of increasingly more complex adaptive responses.
3. Increase in self confidence & self esteem.
4. Improvement in gross & fine motor skills.
5. Improvement in daily living & personal-social skills.

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Resources

- Attention and Alertness
 - Drive Thru Menus www.drivethrumenus.net
 - How Does your Engine Run? www.alertprogram.com
- Sensory Processing Disorder Strategies www.ateachabout.com
 - Tools for Tots
 - Tools for Teens
 - Tool Chest for Teachers and Parents
- Literature on Sensory Processing www.theraproducts.com
 - Sensory Integration: A Guide for Preschoolers by Christy Isbell and Rebecca Isbell
 - The Sensory Sensitive Child by Karen Smith and Karen Gouze
 - Sensational Kids by Lucy Jane Miller and Doris Fuller
 - The Out of Sync Child by Carol Stock Kranowitz
 - The Next Attention Deficit Disorder? Time Magazine 12.4.07

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Questions?

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