



# Occupational Therapy and You Ideas for Tough Kids

Presented by: Lisa Worcester, OTR/L

# Agenda

- What is Occupational Therapy?
- What is Sensory Processing and Reflex Integration?
- Why are these things important?
- What is Sensory Processing Disorder and what does it look like?
- OT Suggestions for Everyone
- Resources and Support
- Questions



# What is Occupational Therapy (OT)?

- Helping people across the lifespan participate in the things they want and need to do through the therapeutic use of everyday activities (occupations)
- Common OT interventions include:
  - Helping children with disabilities to participate fully in school and social situations
  - Helping people recovering from injury to regain skills
  - Providing supports for older adults experiencing physical and cognitive changes



# What is Reflex Integration?

- A reflex is an automatic, instinctual movement that assists in development, growth, and survival.
- There is a specific sequence of movements common to the human race that occurs during the first 2 years of a child's life. These movements systematically develop the brain.
  - Movement develops the sensory system and the sensory system develops the brain.
  - There is strong evidence that shows the relationship between moving and brain processes. (Jensen, Eric - Teaching With the Brain in Mind, p. 62)
  - Integrating reflexes is essential to the ability of learning with ease, managing emotions, and impulses, and processing daily challenges successfully.
  - Incomplete integration of childhood reflexes can be mild to severe and contributes to anxiety, depression, ADD, ADHD, autism, learning disorders, developmental delay, sensory-integration disorders, behavioral challenges, and many others.



# What is Reflex Integration?

- Primitive Reflexes – These begin to integrate in the womb and should be integrated by 2 years of age.
  - Fear Paralysis Reflex, Moro Reflex, TLR, ATNR, STNR
- Causes of unintegrated reflexes
  - Lack of enough proper movement in early childhood
  - Stress of mother during pregnancy, breech birth, birth trauma, Caesarean birth
  - Illness, trauma, injury, chronic stress
  - Environmental toxins
- Reflex movements are the first foundations of the nervous system, affecting the development of the Pons and the Medulla.



# What is Reflex Integration?

- Unintegrated reflexes can trigger the “fight or flight” response, creating chronic stress and fatigue on a system.
- Active reflexes can lead to difficulty moving body parts independently. (Head causes limb movement.)
- Active reflexes cause aches and muscle tension, weak muscle tone, fatigue, and requirement of great effort to complete tasks. (We unconsciously learn to compensate for and suppress active reflexes, which lead to tension and fatigue.)
- Sensory processing is impaired without reflex integration.

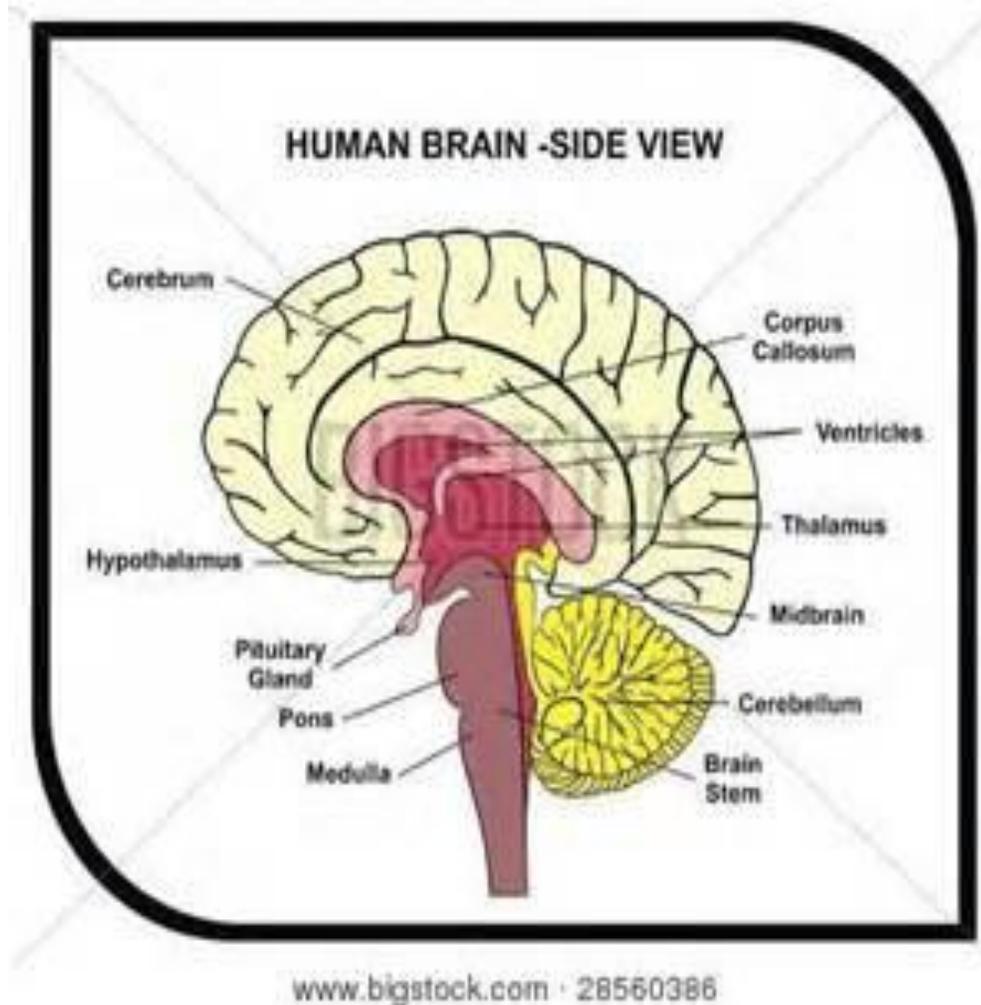


# What is Reflex Integration?

- What are the Pons and the Medulla?
  - Pons – Acts as a filter of information to determine signs of danger. It also controls deep breathing, facial muscles, swallowing, eye movement side to side, maintaining alertness, and peripheral vision.
  - Medulla – Responsible for primitive reflexes exhibited by the newborn. They govern many newborn responses. After 2 months in age the Pons should be developed enough to override and govern the medulla.
  - Reticular Formation (RAS - Reticular Activating System) – Decides whether or not information received is important or ignored. Information from this system helps a person to:
    - Feel safe and secure, keep their attention on task, move without being afraid, use their body automatically, and arouse the cerebral cortex so you know what to pay attention to.
  - All sensory information *first* goes through the brain stem, then the pons (switchboard), then to higher, more complex brain areas.
    - What if the switchboard operator didn't know what they were doing?



# What is Reflex Integration?

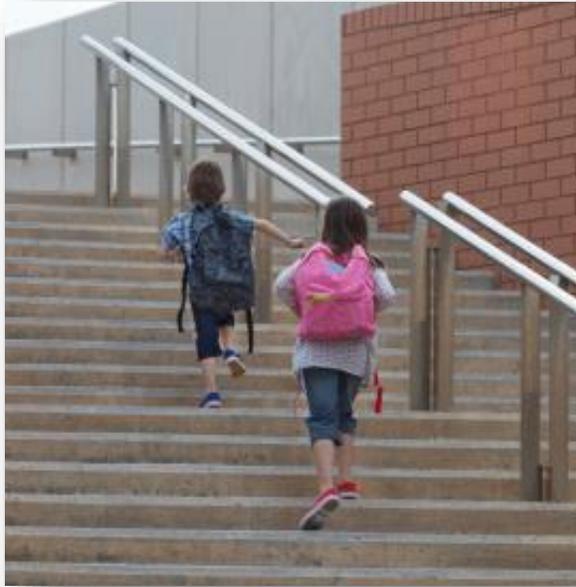


# What is Sensory Processing?

- Sensory processing is the procedure in which we:
  - Process, organize, and use the information that comes in from our senses,
  - Interpret these messages,
  - And organize our purposeful responses.
  - It is the foundation for motor, social, and academic skills.
- Sensory processing occurs:
  - When information is passed back and forth between the
    - Central Nervous System (CNS), with nerves inside the brain and spinal cord and
    - Peripheral Nervous System, with nerves that are outside the CNS.



# Imagine Climbing Up Stairs

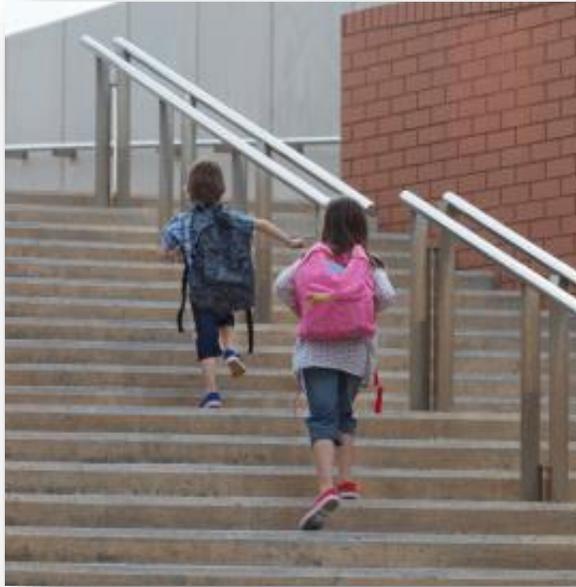


## Imagine Climbing Up Stairs

- Clothes touching our skin
- Hands on the rail
- Feet on the steps
- Body parts changing position
- Whole body moves upward, forward, and from side to side



# Imagine Climbing Up Stairs



The information is integrated and we make adaptive responses to produce motor output such as:

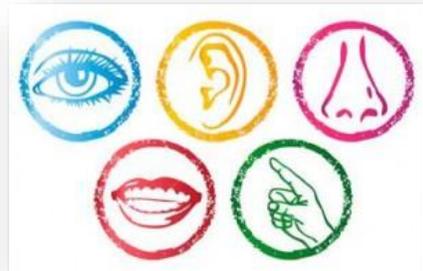
- **Sliding** the hand along the banister
- **Flexing** and **extending** our legs
- **Alternating** our feet on the treads
- **Lifting** our own weight against gravity
- **Maintaining** our **balance** and **keeping** upright



# What is Sensory Processing?

## Environmental Senses

- Seeing (Visual)
- Hearing (Auditory)
- Smelling (Olfactory)
- Taste (Gustatory)
- Touch (Tactile)



## Body-Centered Senses

- Vestibular
- Proprioceptive
- Interoceptive



# What is Sensory Processing?

## Vestibular

- Information about where our head is in relation to the surface of the earth
- Changes in head position
- Movements through space
- Receptors: the inner ear



## Proprioceptive

- Muscle sense or body position sense
- The unconscious awareness of where our body parts are and what they are doing when we are actively moving
- Receptors: muscles



# Why is Sensory Processing Important?

## PHYSICAL DEVELOPMENT

- Balance
- Body awareness
- Self protection
- Motor coordination
- Bilateral coordination
- Crossing the midline
- Hand preference
- Flexibility
- Postural security
- Gravitational security
- Muscle tone
- Grading of movement or force



# Why is Sensory Processing Important?

## VISUAL & AUDITORY DEVELOPMENT

- Visual-spatial perception
- Visualization
- Eye-hand and eye-foot coordination
- Auditory perception
- Speech and language
- Ear-body coordination
- Timing and rhythm



# Why is Sensory Processing Important?

## SOCIAL EMOTIONAL DEVELOPMENT

- Self-regulation
- Emotional security
- Self-esteem and “can do” spirit
- Good social skills
- Ability to express feelings, thoughts, needs



# Why is Sensory Processing Important?

## PERFORMING PURPOSEFUL ACTIVITIES

- Being a part of a family
- Playing with peers and toys
- Enjoying a variety of activities
- Trying new experiences
- Doing well in the occupation of childhood

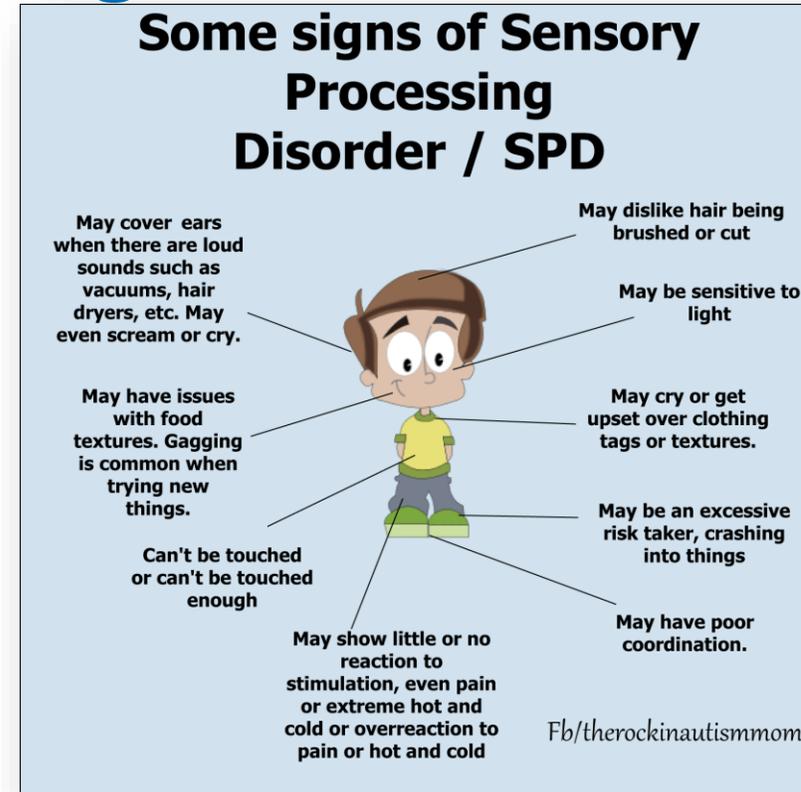
EVERYTHING IS CONNECTED!

To move is to learn!



# What is Sensory Processing Disorder?

- The inability to respond “appropriately” to ordinary experiences
- SPD occurs when the central nervous system processes sensations inefficiently
- Behaviors and actions that should be automatic instead become laboriously planned requiring much attention and effort
- Broad spectrum of severity



# What is Sensory Processing Disorder?

## Some signs of Sensory Processing Disorder / SPD

May cover ears when there are loud sounds such as vacuums, hair dryers, etc. May even scream or cry.

May dislike hair being brushed or cut

May be sensitive to light

May have issues with food textures. Gagging is common when trying new things.

May cry or get upset over clothing tags or textures.

Can't be touched or can't be touched enough

May be an excessive risk taker, crashing into things

May show little or no reaction to stimulation, even pain or extreme hot and cold or overreaction to pain or hot and cold

May have poor coordination.

*Fb/therockinautismmom*



# What is Sensory Processing Disorder?

**WHAT IS  
SENSORY  
PROCESSING  
DISORDER?**

<http://youtu.be/6O6Cm0WxEZA>

# What is Sensory Processing Disorder?

## Common Issues Related to SPD

- Sensory Modulation Dysfunction (SMD)
  - Extreme over or under-reaction to ordinary sensations
- Sensory Discrimination Dysfunction
  - Difficult to differentiate among and between stimuli
- Sensory-Based Motor Disorder
  - Difficulty with coordination and movement resulting from underlying sensory processing dysfunction

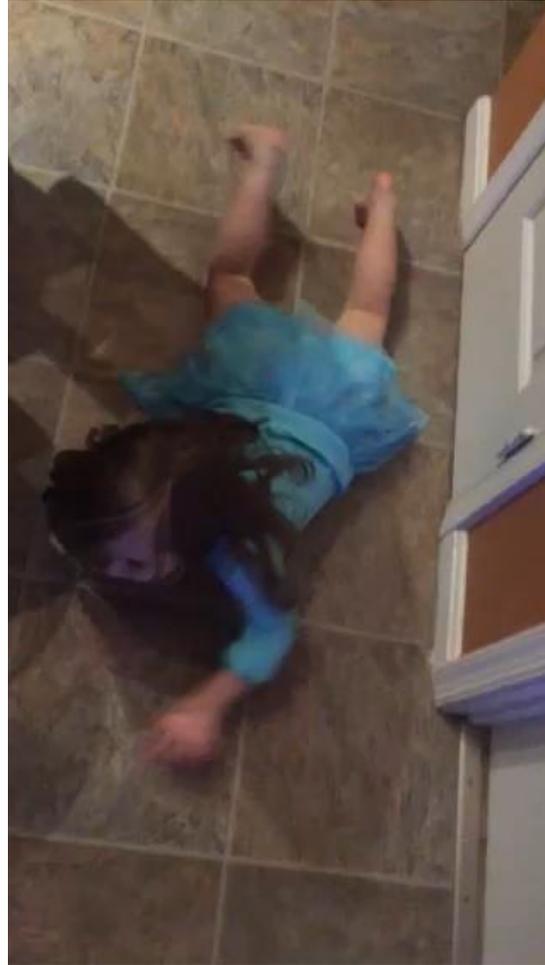


# OT Suggestions for Everyone

- Not all movements are equal in importance and effect. So focus on the ones that count.
- Start at the brainstem!
  - Reflex Integration routine to include:
    - Creeping
    - Swords, Log Rolls, and Lizards
    - Sample duration and frequency would be 1 time per day, each activity 5 – 10 times.
    - Consult with an OT regarding Rhythmic Movement Training protocols such as sliding on back, etc.



# OT Suggestions for Everyone



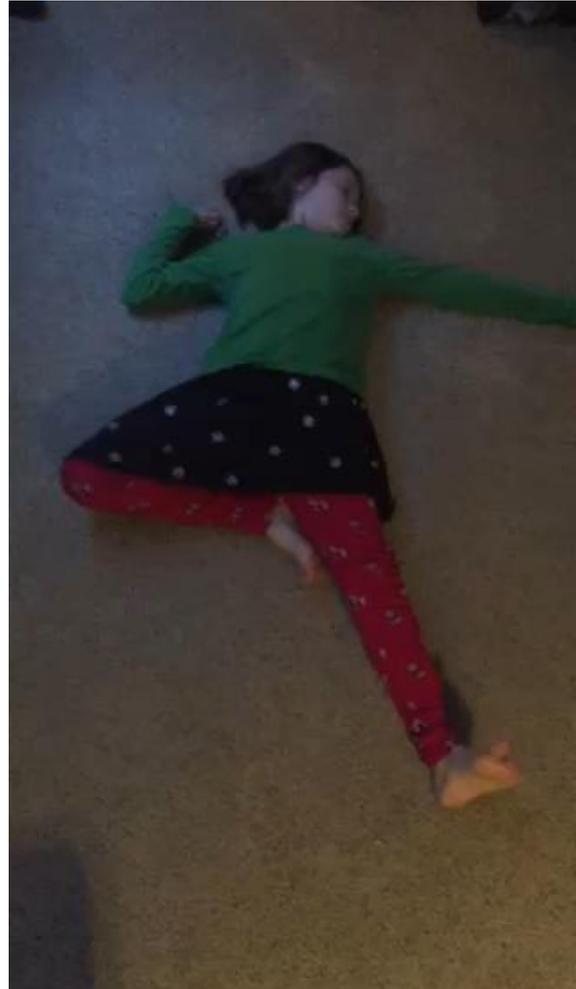
Creeping



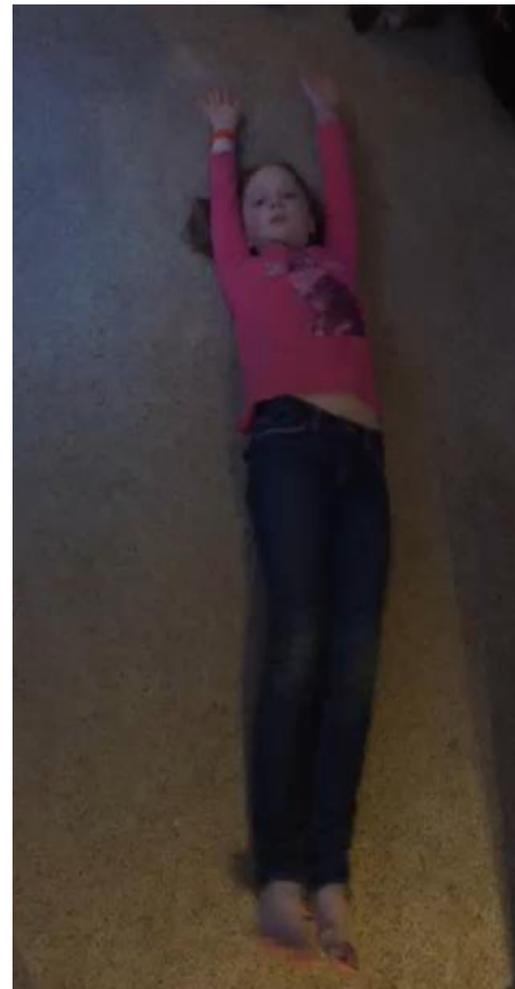
# OT Suggestions for Everyone – reflex activities



Lizards



Swords



Log Rolls



# OT Suggestions for Everyone

- Not all movements are equal in importance and effect. So focus on the ones that count.
- Obstacle courses including large body movement, heavy work, and vestibular input such as swinging or spinning (in short durations)
  - 1-3 steps, jumping, crawling, walking on a line, pushing and pulling, engaging higher level academic skills, and sequencing
  - Stik Kids is a great program for this



# OT Suggestions for Everyone

- Encourage Movement
  - Various positions for seated work
    - On their stomachs to do activities like reading, painting, puzzles, etc.
    - Stand to work on vertical surface
    - Sit on an exercise ball
  - Various sensory input
    - Get messy, squishy, make squeeze balls, multi-sensory learning activities
    - Make a bean filled athletic sock for additional input of weight for lap during seated activities, in a bag for transitions, around the shoulders, etc.



# OT Suggestions for Everyone

- What can you do as a parent or a teacher?
  - Think outside the box for educational activities
  - Let the child lead in activities and build upon them
  - Provide child verbal and visual cues for time/activity changes
    - Such as a schedule board or Time Timer
  - Observe children at play and during work time
  - Refer families to appropriate services if needed; seek out services if needed
  - Have fun, embrace, and encourage these children 😊



# Resources and Support

- Make an appointment to see an OT specializing in these areas for more ideas and therapy procedures that are specifically designed for your child.
- Developmental Delay Resources (DDR)
  - [www.devdelay.org](http://www.devdelay.org)
- Sensory Processing Disorder Network
  - [www.SPDnetwork.org](http://www.SPDnetwork.org)
- Various online resources
  - Pinterest (activity ideas)
  - [www.SensoryResources.com](http://www.SensoryResources.com)
  - [www.out-of-sync-child.com](http://www.out-of-sync-child.com)
- Suggested Reading List
  - provided by HHI
- Helping Hands, Inc. 😊
  - [www.hhitherapy.com](http://www.hhitherapy.com)



Thank you!



# Questions?

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