Objectives

- Describe the basic components of sensory processing.
- Have an improved understanding of the sensory differences of young children with Autism Spectrum Disorder (ASD).
- Describe general strategies to support the sensory needs of young children with ASD.

Why Talk About Sensory Integration and ASD?

Sensory differences may be the first signs that parents notice

- lack of response to certain sounds
- hypersensitivity to taste
- insensitivities to pain
- atypical interest in visual stimulation
- overexcited when touched
- unusual visual behaviors
Sensory and ASD

- The majority of children with autism have been found to have sensory issues
- Sensory differences were included in the characteristics listed in the DSM-IV

Changes in the DSM-5

- Two (rather than 3) domains
  - Social Communication Impairment
  - Restricted and repetitive interests
    "New symptom will be included: hyper- or hypo-reactivity to sensory input or unusual interests in sensory aspects of the environment" (Autism Speaks)

What Does this Mean for Practitioners?

- Difficulties in tolerating and processing sensory input are a core deficit of autism (just as communication difficulties)
- More evidence will need to be accumulated regarding evidence based strategies
- Supports the conclusion that challenging behaviors can be a result of sensory processing difficulties
Sensory Processing and Evidenced Based Practices

In order to benefit from EBPs such as discrete trial, reinforcement, peer interventions, visual structure, naturalistic interventions...

The child must be in a calm and organized state to participate and learn!

Sensory Processing
Making sense out of, and responding to the environment

Information coming in
• Sight
• Auditory
• Movement
• Position
• Taste
• Smell
• Touch

Information Integrated

Response
## Sensory Registration

*(Information Coming in Through Channels...)*

- Touch
- Movement
- Proprioception
- Taste
- Smell
- Sound
- Sight

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## Tactile System

- Pertaining to the sense of touch
- Registers pain and temperature
- Can “over-respond” (defensiveness) or “under-respond” to input

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### Tactile System

*May affect:*

- Activity level
- Social skills development
- Behavior
- Body awareness/personal space
- Motor planning
- Oral-motor skills
- Language development
Some Sensory Strategies: Touch

Deep Pressure Touch...
- Weighted blankets, pillows etc.
- "Hand hugs"
- Wrapping
- Shoulder massage
- Squeezes/whole body hugs/self squeezes
- Pressure with pillows, mats

Some Sensory Strategies: Touch

Something in the hands...
- Pockets lined with different textures
- Play in sand, rice, beans, shaving cream, play-doh etc.
- Vibrating toys
- Lotion
- Water play

Vestibular System

- Responds to changes in head position
- Responds to the rate and speed of movement
- Located in the inner ear
Vestibular System

May Affect:
- Balance
- Language development
- Auditory processing
- Visual processing
- Level of alertness
- Coordination of the two sides of the body
- Comfort in movement

Some Sensory Strategies: Movement

- Running, skipping, sliding, swinging, climbing
- Brief exercise routines
- Songs with movement
- Walking up and down stairs
- Animal walks
- Moving over, under, through
- Crawling

Proprioception

- “A sense of one’s own”
- Sensations from the muscles and joints
- Helps us know where each part of the body is and how it is moving
- AKA “Heavy “Work”
Proprioception

May Affect:
- Body coordination
- Awareness of body in space
- Motor planning
- Grading of movement
- Activities of daily living

Some Sensory Strategies: Proprioception

- Carrying, pushing or pulling:
  - heavy boxes
  - back packs
  - wagon
  - filled gallon jugs
- Climbing, jumping
- Digging
- Wheel barrow walking
- Pedaling
- Moving small furniture

What Channels Provide a Smooth Ride for Children with ASD

See
Taste
Smell
Hear
Position in space
Move
Touch
Sensory Processing in Young Children with Autism Spectrum Disorder

1. Sensory Registration
   - information coming in

2. Sensory Integration
   - Making Sense of the Information

3. Behavioral Response
   - Reacting & responding to the information
   - It's what we can see

We need to be aware of the sensory information coming in (too much, too little)
- We need to evaluate if a person can process more than one sensory channel at a time (mono channel)
- We need to watch the behavioral response
What Happens In a Traffic Jam: Some Behavioral Responses

- Sensory Overload F/F/F
- Self Stimulation
- Self Injurious behavior
- Disorganized Responses

Sensory Overload

<table>
<thead>
<tr>
<th>Fight</th>
<th>Flight</th>
<th>Fright</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lashing out toward self or others</td>
<td>Running away</td>
<td>Freeze state</td>
</tr>
<tr>
<td>Bite, scratch, pull hair</td>
<td>Fleeting attention</td>
<td>Shut down</td>
</tr>
<tr>
<td>Yell &amp; scream</td>
<td>Verbal characteristics</td>
<td>Withdrawal</td>
</tr>
<tr>
<td></td>
<td>Aspects of play</td>
<td>Approach avoidance</td>
</tr>
</tbody>
</table>

Self-Stimulation

Repetitive actions for no apparent reason?

- Why do **you** do it?
  (We all do it, we're just more “culturally appropriate”)

Autism Programs at the CDD, HSC, UNM
Self-Injurious Behavior

- S.I.B. is basically self-stimulation behavior at a higher intensity
- What are they seeking; how can we substitute?

Disorganized Responses

*May Effect:*
- communication abilities
- sensory motor skills
- attention span
- social abilities
- patterns of ritual behaviors
- signs of escalation

To Better Understand Sensory Differences...

1. Recognize that everyone has sensory preferences - it’s only a problem when it gets in the way
2. Try to identify which area of sensory need is interfering the most with this child’s life
3. Consider if the child is seeking sensory input or avoiding sensory input
4. Recognize that all behaviors are not sensory based
The Function of the Behavior Could be a Sensory Need If:
1) The behavior occurs continuously if the person is left alone for long periods of time
2) It appears to you that this person enjoys doing the behavior
3) When behavior is occurring this person seems calm and unaware of anything else going on around him/her
4) The behavior occurs in the same way over and over? (e.g. rocking)
From: Motivational Assessment Scale (MAS) (Durand, 1990)

Finding An Alternative

What is the behavior? Is the function of the behavior sensory? What alternative strategy could we suggest to get more or less sensory input?

Finding An Alternative

Biting skin on hand We think it is sensory

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Sensory Processing in Young Children with Autism Spectrum Disorder

Finding An Alternative

Biting skin on hand ➔ We think it is sensory ➔ We suggest a chewy necklace or bracelet

But Sometimes It's Harder...

What is the behavior? ➔ What sensory input are they seeking? ➔ What is the Frequency? Intensity? Duration? Rhythm?

What alternative input could we offer? ➔ At What: Frequency? Intensity? Duration? Rhythm?

Quality of Sensory Input

How to create a formula for optimal use of sensory input?
Consider:
- Frequency
- Duration
- Intensity
- Rhythm

P. Oetter
**But Sometimes It's Harder...**

- Crashing hard onto floor or into wall
  - 2x5sx/morning
  - Hard enough to be unsafe
  - Very brief
  - Repetitive

- Crashing into or crawling under mats
  - 5x5sx/morning
  - Medium intensity
  - 3-4 minutes at transitions

**Some Sensory Inputs that Can Help a Child with ASD Regulate...**

- Rhythmical movement
- Deep touch pressure
- Organized visual directions
- Decreased auditory input (noise or talking)
- Heavy work activities (proprioception)
- Oral motor options
- Clear beginning and a clear ending for sensory experiences

**In Summary...**

1. Understanding sensory information helps an individual understand their world and therefore learn from it
2. When we have the sensory input we need, we can “make sense” of our environment
So........

Thanks for Listening!

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