Sensory Integration
An Approach to Occupational Therapy Intervention

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What is Occupational Therapy?

Occupational therapy promotes functional abilities and engagement in daily routines

…the “occupation” of life skills…
What is the work of Occupational Therapists?

Occupational therapists address areas of occupation including:

- Work
- Leisure/Play
- Social Participation
- Activities of Daily Living
- Education
Background Knowledge and Skills

Preparation and Standards include:

- Education including study of human growth and development, psychology, and more
- Graduation from an accredited educational program
- Passage of National Certification Exam
- Adherence to state licensure or credentialing
Where do OTs work?

- Homes
- Schools
- Workplaces
- Community settings
- Clinics
- More
OT: An Emphasis on Function

- Occupational therapists address components of function including sensory integration.

- Sensory integration is both a theory and an approach within occupational therapy.
“Sensory integration is the process of organizing sensory inputs so that the brain produces a useful body response and also useful perceptions, emotions, and thoughts.”

Ayres, 1979, p. 28
Sensory Integration supports the child’s ability to:

- Organize himself
- Organize himself in the world around him
The Child Adapts Well

- Child interacts successfully in his activities during play, work, and education.
- The child’s development is enhanced.
- The child’s participation is driven by his interests and abilities.
There Are Many Types of Sensation

* These inputs powerfully influence performance, behavior, and development

- Sight
- Sound
- Taste
- Smell
- * Touch (Tactile)
- * Movement (Vestibular)
- * Pressure (Proprioception)
Sensory Integration

Occupational therapy helps to address the sensory area of touch
Tactile or Touch System

- Gives information about texture, touch, pain, and temperature
- Helps the person make sense of the world and respond appropriately to touch

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Sensory Integration of Touch Leads To...

- Body awareness
- Hand function
- Movement and motor planning
- Activity level
- Emotional and social development
- Bonding
- Fight or flight response
- Sucking and eating

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Sensory Integration

- Occupational therapy helps to address the movement needs of children.
Vestibular or Movement System

- The vestibular system “tells us exactly where we are in relationship to gravity, whether we are moving or still, and how fast we are going and in what direction.”

(Ayres, 1979, p. 36)

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Sensory Integration of Movement Leads To...

- Head/neck/eye control
- Maintaining eye contact
- Arousal and calming
- Smooth coordinated movements
- Good muscle tone
- Awareness of body in space
- Posture and balance
- Organization of behavior
Sensory Integration

- Occupational therapy helps to address the sense of joint and muscle position.

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Proprioception is that “information arising from the body, especially from muscles, joints, ligaments and receptors associated with bones.”

(Ayres, 1972, p.66)
Sensory Integration of Position Sense Leads To...

- Development of body awareness
- Development of muscle tone and coordination
- Motor planning
- Gross and fine motor skill development
- Adjusting effort during movements
- Self-regulation
- Visual perception

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What does Good Sensory Integration Look Like?

- Modulation –
  - The child adapts to meet the demands or challenges that he or she faces

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What does Good Sensory Integration Look Like?

- **Praxis** –
  - In new situations, the child formulates a plan to meet the challenge and executes it.

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What Does Good Sensory Integration Look Like?

- Posture –
  - Ability to change position and move from place to place efficiently and successfully

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What Are Some Signs of Poor Sensory Integration?

- Poor transitions
- Emotional responses to movement
- Withdrawal from sensation
- Poor social behavior
- Poor emotion regulation

- Sensory-seeking behaviors
- Disorganized motor skills
- Difficulty performing skilled movements
- Difficulty using tools
- Low self-esteem
Evidence of Sensory Integration Deficits

- Sensory integration deficits are estimated to occur in approximately 5% of the general population (Ahn, Miller, Milberger & McIntosh, 2004)

- Rates are higher in people with diagnostic conditions such as autism, Fragile X, ADHD, and learning disabilities (Baranek et al, 2002)
It is Active

The child participates in creating and executing the therapeutic activities.
What Does Intervention Look Like?

It is Dynamic

The activities and interactions change in response to the child’s behavior and performance

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What Does Intervention Look Like?

It is Sensory-rich

Opportunities for a variety of sensory experiences are available

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What Does Intervention Look Like?

It is Collaborative

Child learns ability to share control over activity choice and sequence

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What Does Intervention Look Like?

It is Adaptive

Activities are neither too easy nor too difficult

The child is able to use goal-directed responses that match the demand of the activity
What Does Intervention Look Like?

It is Engaging

Playful activities build on the child’s motivation and desires

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What Does Intervention Look Like?

It is Rewarding

Activities are structured to allow the child to experience success when responding to a challenge
What Does Intervention Look Like?

It is an Alliance

The child’s emotions, abilities, and desires are respected through safety and trust

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Expected Outcomes of Treatment

- Adaptive responses occur more often
- Able to perform more complex actions
- Improved gross and fine motor functioning
- More engagement in functional activities
- Improved self-esteem
- Better coordination
- More social interaction
Research supports using sensory integration intervention to promote:

- sensory-motor skills
- gross motor skills
- socialization
- attention
- reading-related skills
- behavior regulation
- participation in active play
- goal achievement
Evidence of Intervention Effectiveness is Growing

• Selected references:
  – Schaaf, et al., 1987
  – Case-Smith & Miller, 1999
  – Linderman & Stewart, 1999
  – Miller, Coll, & Schoen, 2007
  – Schaaf & Nightlinger, 2007
  – Case-Smith, 2007
  – Watling, 2008
  – May–Benson & Koomar, 2010
  – And more!
Additional References

For more information contact: The American Occupational Therapy Association

www.aota.org

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