The Effects of Sensory Integration for Children with Autism Spectrum Disorders

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Purpose & Research Question
- The purpose of this paper is to review the evidence-base for Sensory Integration Therapy. This will be done by evaluating the studies testing the effectiveness of SIT for improving functional behaviors and social-communication skills in children with autism.

Abstract
- Autism Spectrum Disorder (ASD) is more widely understood, but identifying the most effective treatment method is still unknown. 
- Currently this disorder is seen in 1 out of 59 children.
- "When you have met one child with autism, you have only met one."

Introduction
Autism Spectrum Disorder is a developmental disorder typically characterized by core deficits in social skills, communication abilities, and atypical patterns of behavior (Koegel et al., 2015). 

What is Sensory Integration
- A multimodal processing system for retrieving and forming perceptions about one’s surroundings to effectively function within the environment. 

Sensory Processing: function of the central nervous system (CNS) to take in and code information from our surroundings 
- The brain’s neural systems differ in children with ASD than typically developing kids, which cause the atypical hypo-sensitive, hyper-sensitive or sensory-seeking responses. 

<table>
<thead>
<tr>
<th>Principle</th>
<th>Sensory Integration (therapy), Ayres sensory integration</th>
<th>Effectiveness, application</th>
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</thead>
</table>

Subjects, Methods & Analysis
- Electronic search of six databases to identify literature relevant to the topic:
  - ASHA Journal
  - ASHA SIG Perspectives
  - PubMed
  - AOTA
  - Google Scholar
  - Science Direct

Table 1. Key Principles of the Sensory Integrative Approach

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<th>Implications</th>
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<td>Input Right Challenge</td>
<td>The therapist creates the task environment to elicit meaningful challenges that the child perceives as challenging, the activity incorporates a challenge that the child is able to achieve. In response to the Input Right Challenge, the child engages activity that enhances new and child skills, thus fostering development</td>
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Conclusion
- Mixed findings in the effectiveness of Sensory Integration for children with autism, but minimal changes to research could improve efficacy and expand use of SIT to other disciplines 
- Important to consider sensory processing as these skills help build a foundation for learning and promote development of social-communication & functioning in daily activities 

Directions for Future Research
- Single-subject or small group – not representative of different qualities to generalize to whole population 
- Increase size & quality to improve efficacy 
- Differe from environment, materials, and therapy elements used 
- Other approaches are less effective 
- When all types are mixed, it limits overall findings of SIT 

Results
- Total of 9 studies reviewed with common themes in how SIT was used to improve functioning ability include:
  - Persistent motor movements in an attempt to regulate low or high arousal: rocking, hand flaps 
  - Social interactions with peers or ability to remain involved in an activity can limit ability to express wants and needs verbally or with gestures and initiate communicative acts

Current Research Focus 
- Repetitive Behaviors
- Social Participation & Engagement
- Communication