Supporting sensational children

Facilitators: Angela & Laurence Stanton-Greenwood

Hesley Group
What is Sensory Integration

• The term “sensory integration” refers to the ability to take in sensory information from the environment, interpret it, organise it and then respond appropriately through engagement in occupation.

• Theory was developed by Dr A. Jean Ayres an Occupational Therapist, Psychotherapist and Educational Psychologist.
Sensory Integration enables us to:

- Play
- Learn and work
- Develop skills
- Develop sense of self
- Self-regulate
- Interact socially
The 7 senses (Sensory Systems)

- Auditory (Hearing)
- Visual (sight)
- Olfactory (Smell)
- Gustatory (Taste)
- Tactile (Touch)
- Proprioception (Body Awareness)
- Vestibular (Balance)
Activity

Hot bread
Sensory Processing problems

Sensory Processing Disorder (SPD)

- Sensory Modulation Disorder (SMD)
  - SOR
  - SUR
  - SC

- Sensory-Based Motor Disorder (SBMD)
  - Dyspraxia
  - Postural Disorder

- Sensory Discrimination Disorder (SDD)
  - Visual
  - Auditory
  - Tactile
  - Taste/Smell
  - Position/Mvmt
  - Interoception

SOR = Sensory Over-Responsivity
SUR = Sensory Under-Responsivity
SC = Sensory Craving

Miller, LJ et al., 2007

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Neurological Threshold

- The point at which a person’s nervous system responds to sensory input.
- A person with sensory processing difficulties may have a low or high threshold to certain or all types of sensory input.

**Low Neurological Threshold** – person may display hypersensitivity, they may react too quickly or frequently to sensory stimulation and they may appear overly excitable or hyperactive.

**High Neurological Threshold** – person may display hyposensitivity, they may be less likely to react or take longer, they may appear fatigued, sluggish or apathetic.
Ayres’ SI assumptions

• The central nervous system is plastic
• Sensory integration develops
• The brain functions are integrated as a whole
• Adaptive interactions are critical to sensory integration
• People have an inner drive to develop sensory integration

So what is the difference between Sensory Integration and sensory based interventions?
<table>
<thead>
<tr>
<th>Ayres Sensory Integration</th>
<th>Sensory based interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aims to have a lasting impact on neurophysiological processing of sensation</td>
<td>Aims to modify regulatory state or behaviour quickly without necessarily having a lasting effect</td>
</tr>
<tr>
<td>Adheres to elements in the fidelity-to-treatment instrument</td>
<td>Uses sensation to support function but does not meet fidelity criteria</td>
</tr>
<tr>
<td>Requires active engagement and adaptive responses</td>
<td>Sensation may be experienced passively with or without an adaptive response</td>
</tr>
<tr>
<td>Requires specialised equipment</td>
<td>Minimal equipment needed</td>
</tr>
<tr>
<td>Requires specialised environmental affordances</td>
<td>Easily implemented in everyday environments</td>
</tr>
<tr>
<td>Provided in the context of play</td>
<td>May or may not be playful</td>
</tr>
<tr>
<td>Provided in 1:1 context that allows individualised and responsive modification of the intervention</td>
<td>May be administered in individual or group context</td>
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<tr>
<td>Practitioners have advanced training</td>
<td>Advanced training is recommended but not essential</td>
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</tbody>
</table>
Sensory checklist – the parent as sensory investigator
Avoid/Adapt: Designing service-wide systems for success

Tertiary (intensive) interventions for people with ‘high-risk’ behaviours:
• Assessment based
• Resource intensive

Secondary (targeted) interventions for identified ‘at-risk’ individuals:
• Some individualising
• Small group interventions
• High efficiency
• Rapid response

Primary (universal) interventions for all individuals, staff and settings:
• Preventative, proactive
• Differentiated instruction
• Research – validated curriculum
‘Sensory diet’ is a carefully designed and personalised activity plan that provides sensory input to stay focused and organised during the day

(poorly evidenced efficacy)
Sensory diet:

- Work stations
- Uncluttered
- Smells/
- sound

- Weighted vest
- Ear defenders
- Cushions
- Fidgets

- Trampoline
- Therapy ball
- Scooter
- Heavy work

- Environment
- Activities
- Equipment
- Approach

Routine
- Co regulation

Approach: Sensory diet:
# Types of interventions

<table>
<thead>
<tr>
<th>Proprioceptive input</th>
<th>Vestibular Input</th>
<th>Oral-Motor Input</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Heavy work&quot;</td>
<td>Linear, rhythmic movement</td>
<td>Crunchy foods</td>
</tr>
<tr>
<td>Pushing/pulling things</td>
<td>Rocking motion</td>
<td>Chewy foods</td>
</tr>
<tr>
<td>Wearing &quot;loaded&quot; backpack</td>
<td>Bouncing gently</td>
<td>Drinking through a straw</td>
</tr>
<tr>
<td>Push ups/monkey bars</td>
<td>Swinging (not spinning)</td>
<td>Blowing</td>
</tr>
<tr>
<td>Climbing</td>
<td>Jumping</td>
<td>Deep breathing</td>
</tr>
<tr>
<td>Big hugs or wrapping up</td>
<td>Sitting on a &quot;wiggle&quot; cushion</td>
<td>Minty/sour candy</td>
</tr>
</tbody>
</table>
Move- Vestibular

- Up and down movements  ALERTING
  - See-saw, bouncing on therapy ball, trampoline, move’n’sit cushion
- Linear (slow, predictable, rhythmic)  CALMING
  - Swing, prone on therapy ball/roll, rocking chair, scooter board, hammock
- Linear (unpredictable, fast, arrhythmic)  ALERTING
  - Tunnel (with movement), swing, scooterboard
- Rotary/spinning  ALERTING
  - Hammock, outside spinner, small individual spinner
- Inverted/upside down  ALERTING
  - Hanging upside down, bending over with head between knees, prone on therapy ball,
Move - Proprioceptive

* sensory input into muscles, tendons and joints
  * ALERTING or CALMING

- Heavy Work - animal walks, pushing, crawling, pushing medicine balls, scooterboard

- Crash and Bump - crash mat, pillows
**Touch**

- **Fidgeting/holding objects** **ALERTING or CALMING**
  - ‘DETECTIVE WORK’ – recognise if toy is not working and remove or exchange
  - Koosh balls, squeeze/stress balls, small slinky’s, coiled elastic shoelaces, drinking straws, soft pieces of fabric

- **Temperature**
  - Warm temperature **CALMING** – wheat/heat pack, warm bath
  - Cold temperature **ALERTING** – e.g. transition activities, cold drink, ice cream cake

- **Light touch** **ALERTING**

- **Deep/Firm touch** **CALMING**
  - Firm “bear hug”
  - Playing with clay, playdough, theraputty (pushing, pulling, poking)
  - Deep massage, swiss ball roll/squash
Mouth

• What actions can you do with your mouth?
  • Blowing, sucking, swallowing, biting, crunching, chewing, licking

• How it feels or tastes?
  • Resistance created in the mouth (with your jaw, lips, tongue, teeth) when you are blowing, biting, crunching, chewing, sucking

• What can you use?
  • Food, straws, whistles, bubbles, musical instruments (harmonica), exercise water bottle, blow the sheep in prone, bubble monsters (hands and knees or cross legged), party blowers (with or without noise), pin wheels, ping pong balls, feathers, 100’s and 1000’s, blowing bubbles as part of a relay or obstacle course.
So what do we know?

TOM
Questions of

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