

COMMUNITY NETWORKS
OF SPECIALIZED CARE
RÉSEAUX COMMUNAUTAIRES
DE SOINS SPÉCIALISÉS
NORTH/NORD

Sensory Processing and Developmental Disability:
Behaviours can speak 'volumes'.
What are people trying to tell us?

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Sept 29, 2015

Videoconference Event ID:
47706021


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OTN Service Desk:
1-866-454-6861

Handouts on CNSC website

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<http://www.community-networks.ca/en/vchandouts>


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How to submit your Feedback about today's session

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Survey Monkey Questionnaire Quick Response Code:



Survey Monkey web link:

<https://www.surveymonkey.com/r/SensoryProcessing-SEPT29-2015>

Learning Objectives

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Participants will be able to:

- 1) Increase their knowledge of the theory underlying sensory processing;
- 2) Gain an understanding of how difficulty processing different types of sensory input can contribute to unusual behaviours;
- 3) Describe some strategies that can be trialed safely with people receiving support, along with necessary precautions as well as the necessity for assessment by a professional familiar with sensory processing prior to using some equipment/strategies.

Window of Opportunity

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- Each of us has a 'window of opportunity' where we are calm but alert and so we are our most functional
- Sometimes we need to be 'wound up' to get to that window
- Sometimes we need to be 'calmed down' to find the window
- By using information about sensory processing as the basis for intervention, individuals can be helped to live in their window of opportunity

Integration of Sensory Input Helps to Calm and to Alert

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Since it is often through some form of sensory input or integration of this input that we can be brought to this 'window of opportunity', it is important to understand what an individual requires in order to assist them – do they need more input or less input and when do they need it??

Careful Observation is Important

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- Sometimes it takes time to find the 'window' because it may require adding input or subtracting input depending on the nervous system. The nervous system is constantly changing so what is essential today is not necessarily what is important tomorrow.
- Sometimes people are seeking input to such an extent that their sensory needs interfere with their functional skills.
- Sometimes they are avoiding input so they do not benefit from what is offered in the environment.

Parts of the Nervous System

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1. Vestibular system
2. Proprioceptive system
3. Tactile system
4. Auditory system
5. Visual system
6. Gustatory system
7. Olfactory system

1. Vestibular System

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- One of the most important parts of the nervous system and underlying many other sensory processes
- Involves movement of the head and response to gravity
- Input is processed in the inner ear and then goes to the base of the brain to impact everything over it

Vestibular System

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Movements can include:

- Back and forth
- Up and down
- Circular movements

Movements can be:

- Rhythmical
- Irregular
- Fast
- Slow

Vestibular System

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What can happen if there is poor processing of vestibular input:

- Constant movement
- Lethargy
- Poor posture
- Lack of focus
- Challenges with balance

2. Proprioceptive System

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- Deep pressure to muscles and joints
- Tends to be calming with most individuals
- Amazing how much pressure some people need to feel calm
- If in doubt, use deep pressure as long as you can get close enough and not be hurt

Proprioceptive System

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- Also includes vibration
- Vibration provides not only proprioceptive input but also vestibular input
- Need to be careful with vibration since it can affect the brain for extended periods of time and be uncomfortable
- Never use on bony surfaces just muscles

Proprioceptive System

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What can happen if there is poor processing of proprioceptive input:

- Poor awareness of personal space
- Lack of awareness of body strength
- Running into people and things, that is not accidental
- Aggression to self or others

3. Tactile System

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- Tactile input is important for learning, eating and also the social aspects of touching
- Input is received through all skin surfaces
- Very important to respect everyone's comfort level – both the individuals we support as well as the level of comfort of staff who are doing the supporting

Tactile System

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What can happen if there is poor processing of tactile input:

- Withdrawal especially in group settings
- Not liking certain clothing/tags
- Difficulty tolerating food textures
- Difficulty tolerating personal hygiene especially if not done by self
- Hitting self or others

4. Auditory System

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- Processing of noises, sounds, etc.
- Can sometimes 'block' out noises if it is too much – and then may forget to 'tune in' again
- Much sensory integration can occur even if people cannot hear

Auditory System

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What can happen if there is poor processing of auditory input:

- Individual can be very noisy
- Withdrawal especially in group settings
- Appears not to hear
- Covers ears

5. Visual System

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- Even though we see this as very important information, people can manage very well without vision until the higher level skills are required, for example, reading, writing, etc.
- Important to recognize a difference between visual acuity and functional vision – functional vision difficulties can really affect an individual in a hidden manner

Visual and Vestibular Systems

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- These systems are closely related and input from one can affect the other
- Think about when you are at a stop light and a car beside you moves slightly forward – do you think you are moving backward?

What is Functional Vision

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Check out things such as:

- Blinking
- Using peripheral vision
- Eyes working together
- Eyes moving separately from the head movements

Visual System

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What can happen if there is poor processing of visual input:

- Staring
- Poor eye contact
- Turning off lights
- Becomes agitated if too much visual input
- Distractibility
- Wearing a cap in a certain manner

6. Gustatory and 7. Olfactory Systems

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- Sense of taste and smell
- Harder to control input because it is all around us
- Can be powerful in terms of memories and we may have no awareness of why the individual is behaving in the way in which they are

Gustatory and Olfactory Systems

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What can happen if there is poor processing of gustatory and olfactory input:

- Individual likes bland or highly seasoned foods
- Over or under reaction to smells
- Over eats especially if he/she does not get good feedback – may not know the food is in his mouth

Gravitational Security

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- Fear of having your feet off the ground
- Also related to the vestibular input and proprioceptive input the individual is receiving
- If fearful, important to not push because it is a real fear
- Most concerning with swings or other pieces of equipment where the individual feels threatened – but can also be important in the winter with icy roads, etc.

Body Awareness

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- Needs information from vestibular system, tactile system and proprioceptive system
- Awareness of body in space
- Lack of adequate body awareness can result in people bumping into things/people, sitting on someone else, difficulty dressing

Coordination of Two Sides of the Body

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- In order to develop, there needs to be accurate input from vestibular, tactile and proprioceptive systems
- Use of two hands in a coordinated manner for self-feeding, dressing, playing ball, etc.
- Also leads to the ability to cross the midline of the body

Motor Planning

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- Again information from the three major systems is required
- Today it is easy to tie shoe laces and tomorrow the individual wonders what shoe laces are
- Very frustrating for everyone both client and caregiver

Activity Level, Attention Span

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- Need good information from the vestibular system, proprioceptive system, and tactile system
- Can be affected by needing more movement, irritated by the feel of clothes, feeling 'ungrounded', etc.

Activities of Daily Living and Behaviour

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- All can be affected if integration of sensory information is lacking
- Obviously not the only factor but certainly a part of it

Identifying Sensory Processing Differences

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- Careful observations
- Checklists may be helpful
- Consultation with teammates and/or other professionals with knowledge of sensory processing
- Assessment by a professional with knowledge of sensory processing

Assessment Process

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- Formal Assessment done either in person or through video conference
- Scored and interpreted
- Reviewed with team members
- Plan developed including specific goals
- Consultations to ensure we are on the right track

How to Help the People You Support

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- Identify times that are difficult
- Determine what may be the cause of those difficulties
- Trial strategies/keep data
- Maintain the input that is most beneficial
- Set up a 'sensory diet'

What is a 'Sensory Diet'

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- Strategies and/or activities that are used throughout the day to keep an individual regulated and performing at his/her best – or in that 'window of opportunity'
- Can include input to all senses at some point but may only need input to one part of the nervous system
- Based on the individual's needs, so input and time is specific although the actual activity may not be the same every day

Sensory Diets

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- Individualized both to the individual and to the behaviour
- Order specific
- Time specific
- Data collection would be important at least initially
- Needs to be consistent among staff

Sample Sensory Diet

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- Upon rising: sit with weighted sock on shoulders while drinking her coffee
- Mid morning: vestibular input such as walk, exercise programme, etc.
- Before lunch: sit with weighted sock
- Mid afternoon: Vestibular input such as a walk, van ride, swimming, etc.
- Before dinner: sit with weighted sock
- After dinner: tactile fidget tools

Activity Suggestions

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- Pressure vest
- Weighted blanket/vest/animals/socks
- Wrist/ankle weights
- Tactile materials
- Theratubing
- Vibrator
- Trampoline
- Swings
- Rocking chairs
- Therapy balls

Precautions

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- Vestibular input can be overwhelming especially spinning
- Seizure prone individuals cannot always tolerate flashing lights, especially at some frequencies
- Tactile input is closely related to social relations – be careful that you don't bombard the individual

Take-Home Messages

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- Providing sensory input can be lots of fun and provides a good base to a positive relationship with many individuals
- Seek professional assistance sooner rather than later or you may lose the benefits of the activity
- Vestibular input, even in the form of walking or other physical activity, can be most powerful
- If in doubt, use deep pressure

Resources

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- The Out of Sync Child/ The Out of Sync Child has Fun (Carol Stock Kranowitz):
<http://out-of-sync-child.com/>
- *Building Bridges Through Sensory Integration* (Paula Aquilla BSc OT, Ellen Yack BSc MEd OT, and Shirley Sutton BSc OT)
<http://www.specialneedsbookreview.com/2015/08/05/building-bridges-through-sensory-integration-3rd-edition-by-ellen-yack-paula-aquilla-shirley-sutton/>
- The Sensory Connection Program (Karen Moore)
<http://www.sensoryconnectionprogram.com/>



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