



# Managing Behaviours of Concern Through Wheelchair Interventions

Allowing for Sensory Expression and Enhancing Participation.

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Stand 514

# Objectives:

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1. Explore presentations of behaviours of concern and sensory seeking behaviours in wheelchair users.
2. Understand how to assess presentations in a client centered way, using this information in models of practice to develop pathways to client outcomes.
3. Learn about equipment available to enhance wheelchair prescriptions with the potential of reducing common breakage, enhancing participation and optimizing tolerance for being in the wheelchair.
4. Review a case study demonstrating the use of dynamic solutions in reducing this wheelchair user's incidents of labeled behaviours.



# Exploring common “labels”



## Behaviours of Concern OR Challenging Behaviours

Are those of such intensity, frequency or duration that the physical safety of the person or others is likely to be placed in serious jeopardy, or behaviour which is likely to seriously limit the use of, or result in, the person being denied access to ordinary community facilities. (4.)

## Disruptive Behaviours

Occur when an individual produces behaviours requiring and/or seeking the constant attention of those around them and is usually resolved quickly and easily with minimal effort. (1&3)

## Sensory Processing Deficit OR Disorder

Describes disruption to the way in which sensation is detected, transduced, and transmitted through the nervous system usually resulting in a hypersensitivity or hyposensitivity. (6)

## Sensory Integrative Deficit OR Disorder

Defined through Occupational Therapy theory and frame of reference, as a process related to multimodal processing that supports the formation and retrieval of multisensory perceptions in the central nervous system, which may contribute to limited in function (6)

# Exploring the Presentations



# Exploring the Presentations

- Self injurious behaviors
- Behaviors leading to injuries to others
- Eating the wheelchair surfaces
- Attempts to exit the wheelchair
- High vocalization
- Rocking
- Leaning over the side of the wheels
- Sensory avoidance
- Increased need for repairs to the wheelchair and seating systems



# PEELING BACK THE ONION

## Inner Layer

- Unlayer the now
  - what labels are being given and by who
  - what presentations lead to these labels
  - current level of function
  - current environments
  - current routines
  - current methods of communication
  - Current PBS plans
  - Interacting within a multidisciplinary team...



## Outer Most Layer

- Starting from the history
  - what do we learn about a client's history
  - Diagnosis, mobility, Early Learning motor/sensory, Rehabilitation, communication, environments, routine...

## The Core

- Develop an understanding of client experience
- Client centered Practice.
- Neurodivergent physiology

# What assessments are available to further support understanding of the behaviour/s

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- Eliminate other possible causes – medical/neurological, pain, trauma triggers, medication change, relationships with others, environmental factors or changes in routine...
- Implementing ABC Behaviour Chart (Antecedent, Behaviour, Consequences)
- Vineland Adaptive Behaviour Scale
- Pearson's Sensory Profile
- Overt Behaviour Scale
- Life Roles Checklist
- I-CAN (certification required)
- Functional Independence Measure (certification required)
- Clinical observations and collaborations as part of a multidisciplinary team



# How do we direct this information back to the wheelchair

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Consider mobility goals using the wheelchair:

- Independent, assisted, dependent or combination
- What functionally is achievable?
- Are there behaviours associated with mobility?
- Is there a risk of immobilization being used as restrictive practice by others?

Base design and features:

- Related to mobility goals and build from ADL goals
- Strength frame and all components
- Need for moving features such as tilt, recline, elevating legs...
- Can you reduce moving parts?
- Can the frame be used to absorb forces?
- Are dynamic components necessary?

*Can the base and hardware components allow for movement to produce sensory input?*



# RESNA Position Paper on the Application of Dynamic Seating reveals through literature & peer review...

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- The seated posture is not a static posture, and all sitting includes some degree of movement.
- The brain is wired to move, thus many of our clients intentionally seek movement. Intentional movement helps us to understand our world and our relationship to the world.
- Movement is the building block of perception and learning.
- Movement can:
  - Calm (reduce agitation)
  - Arouse (increase alertness)
  - Strengthen muscles
  - Enhance visual control
  - Provide comfort
  - Improve voluntary functional movements (neuroplasticity)

# RESNA Position Paper on the Application of Dynamic Seating reveals through literature & peer review...

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- Movement provides vestibular input. When the vestibular system is activated, the brain can be either calmed or aroused.
  - An agitated client may become calm when the vestibular system is activated; a sub-aroused client may become more alert.
- Challenging behaviors may be reduced in response to movement.
- Dynamic seating can increase sensory input
- Active movement may be found to increased proprioceptive input for improved body and spatial awareness. This can, in turn, improve function.

# Things to consider in a seating system

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## Seat surfaces:

- Follow pelvic stability principles
- Materials that absorb force and increase seating tolerance
- Reducing shear forces
- When to add padding
- Wear of surface materials – any pica behaviours

## Postural Supports

- Promoting alignment of the individual's postural
- Are they external of the seating system or contours within the seating system?
- What happens to the postural support when there is movement?
- Are there high maintenance requirements with moving parts?
- Is there a risk of breakage causing injury to the wheelchair user?
- Is there a risk of postural supports; such as belts, harnesses and ankle huggers; being used for restrict practice?

# Continuing to build onto the wheelchair system



## ADL enhancing accessories

- Wheelchair trays; understanding the role, communicating the use and ensuring it is not to be used as restrictive practice.
- Communication devices, safe mounting options and accessibility.
- Sensory tool kits and strategies to control ones environment.
- Transport plans
- Accessibility to food and drinks, as well as comfort items stored on the wheelchair

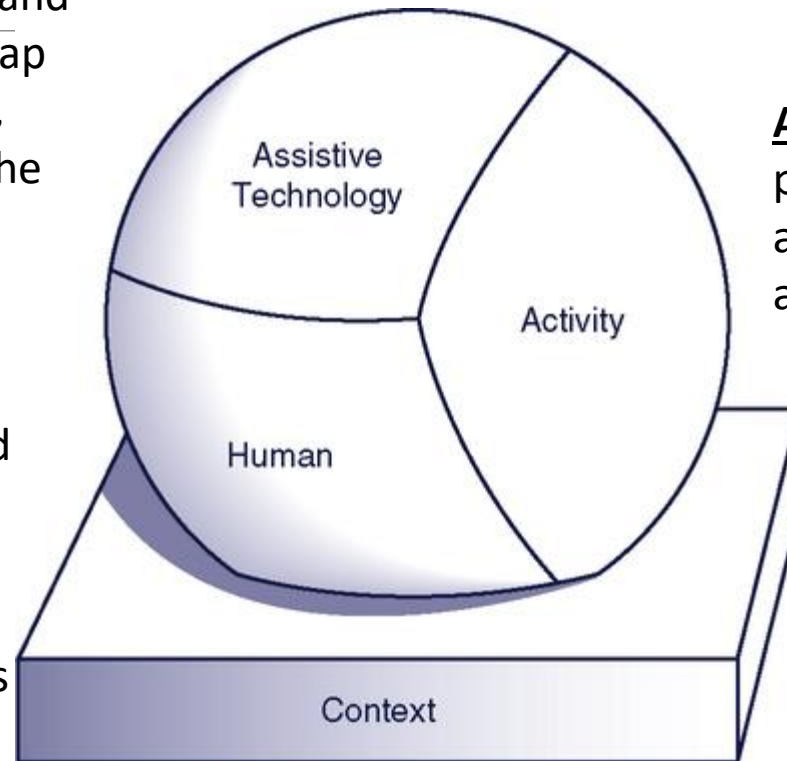


# Human Active Assistive Technology model



**Assistive Technology**- devices and strategies used to bridge the gap between the person's abilities, interactions from others and the demands of the environment

**Human**- represents the skills and abilities of the person with a disability, as well as their occupational performance hurdles & assistance from others



**Activity**- a set of tasks to be performed by the person with a disability; measuring level of assistance provided by others

**Context**- the setting or social, cultural and physical contexts that surround the environment in which the activity must be completed (list triggers to occupational performance hurdles)

# Have you meet...

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Presenting with B.o.C and poor tolerance in wheelchair

- Excessive rocking in wheelchair, leading to wheelchair “travelling” around the room when locked (safety concerns)
- Excessive chewing behaviours (chewing on hands/ thumb sucking, chewing on armrest padding).
- Tolerating the wheelchair for 1-2 hours per day, spent most of day on floor

Outcome

- Scripting of dynamic back canes on stellar impact wheelchair increased durability, allowing rocking behaviour to happen in safe environment
- Exploring further table top / seated activities with OT to help increase participation in daily activities / house activities
- Noted during trial (4 days): reduced chewing on trial chair handles, reduced outburst and enjoyed ability to have sensory input from dynamic back canes, better engagement in social and daily activities due to change in posture, increased tolerance to remain in the wheelchair for longer periods of time



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# Take Home Message:

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- ❑ Working along side wheelchairs users with labeled behaviours of concerns and/or sensory processing disorders, need not be daunting to the prescribing therapist.
- ❑ Building a wheelchair prescription to match the person, their movements and biopsychosocial needs, is essential as a part of the dynamic influence AT has on shaping how challenging behaviours are managed and functional participation can be encouraged.
- ❑ Getting to the core of the client is essential, formulated client centered goals and working as a part of a multidisciplinary team will help to shape positive behaviour supports.





# Questions?



FOR ADDITIONAL INFORMATION:

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