

# Rolling with Relief: Pediatric Sensory Diversion in Action

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## BACKGROUND

Pediatric patients, especially those with sensory processing disorders (SPD), autism spectrum disorder (ASD), anxiety, often struggle with over stimulation or behavioral regulation in acute clinical settings. Traditional environments in Emergency Departments (EDs) can exacerbate behavioral dysregulation, leading to the increased need for additional staff, restraints, or pharmacological interventions. This project aimed to design, implement, and evaluate the impact of mobile sensory carts in Pediatric EDs using quantitative research study design using questionnaire format. The goals were to improve the patient experience, decrease behavioral incidents, and enhance nursing support for self-regulation strategies.

Interventions such as sensory rooms and mobile carts are underexplored in acute care pediatric clinical settings. Sensory carts are designed to provide a mobile controlled, calming space intended to meet the unique sensory needs of pediatric patients with neurodivergence, promoting comfort and reducing distress. Research has shown that sensory diversion activities/rooms can significantly reduce anxiety, improve emotional regulation, and decrease the need for physical restraints or pharmacological interventions (Champagne & Sayer, 2019; Novak et al., 2021; O'Sullivan & O'Connor, 2020).

The Pediatric ED and Pediatric Pavilion Professional Governance (PG) teams collaborated with the Pediatric Leadership team to design a safe, mobile cart that could provide a calming and therapeutic environment, encompassing Virtua's promise to provide diversity and inclusivity to the community. There was collaboration with Behavioral Health and Castle outreach staff to determine what equipment/supplies would be beneficial to maximize the benefits of the sensory cart, then funding was obtained.

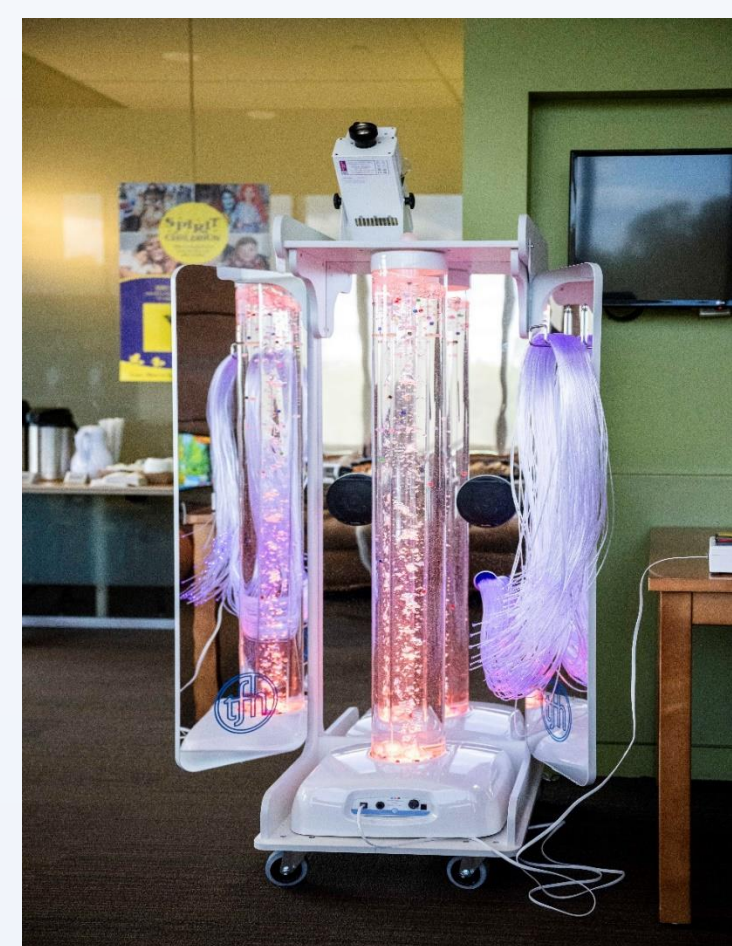
## OBJECTIVES

1. Describe the key components and design features of a sensory cart tailored to the pediatric population.
2. Determine evidence-based guidelines for the safe and effective utilization of sensory carts.
3. Critique the crucial role of nursing in the development, implementation, and monitoring of sensory diversion interventions.

## BENEFITS

Pediatric sensory carts are specialized mobile environments designed to help children manage sensory processing issues, anxiety, and behavioral challenges, particularly in high-stress acute care settings. These carts are equipped with various sensory tools such as calming lights, sounds, and tactile objects, aiming to provide a therapeutic and soothing experience. By engaging children in sensory activities, these carts reduce the need for more traumatic interventions, such as restraints or sedation medications (Champagne & Sayer, 2019).

Voorhees Cart



Mt Holly Cart



## GUIDELINES

**Individualized Sensory Plans (ISP):** Interventions should be customized based on each child's unique sensory profile and therapeutic needs (Long & Bauer, 2022).

**Professional Supervision:** Healthcare professionals such as a child life specialist, patient care technician (PCT) or nurse, should be trained to manage the use of the sensory equipment/room (Walker & McKenzie, 2019).

**Safety Protocols:** Safety checks should be conducted regularly to maintain equipment, prevent accidents, and ensure a safe environment (Long & Bauer, 2022).

**Duration Monitoring:** Session usage should be limited to avoid overstimulation and guarantee effective use of the sensory equipment (Walker & McKenzie, 2019).

**Parental and Caregiver Involvement:** Educate and include parents/guardians in the sensory interventions to extend the benefits beyond the hospital setting (Long & Bauer, 2022).

## SURVEY

How are we doing?

We know being in the hospital is not fun and can be scary. We would like to know if the Sensory items helped you/your child to feel calmer and more relaxed. Please tell us about your experience.

My child has been in the hospital before.  
 Yes  No

My child used:  
 Sensory Room  VECTA Cart

The Sensory items were calming.  
 1  2  3  4  5  
Strongly Disagree Strongly Agree

Comments:

The Sensory items were overstimulating.  
 1  2  3  4  5  
Strongly Disagree Strongly Agree

Comments:

Did your child have a procedure?  
 Yes  No  N/A

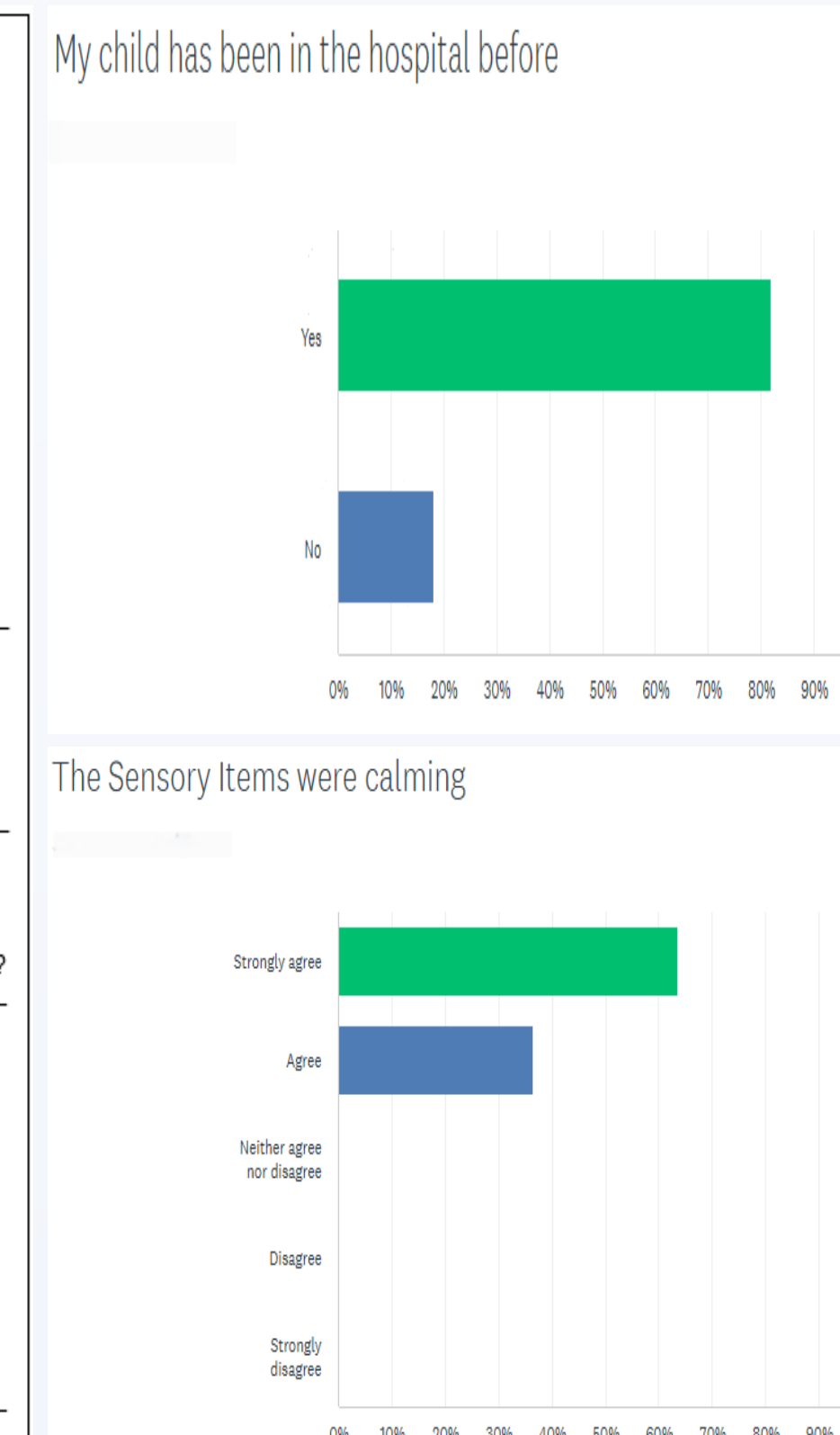
If answered Yes to above question, what procedure?

Did Sensory items help keep your child calm and relaxed?  
 1  2  3  4  5  
Strongly Disagree Strongly Agree

Were the Sensory items (Room or Cart) clean and organized?  
 Yes  No

Please share any additional comments or suggestions.

## RESULTS



Preliminary analysis of SurveyMonkey responses showed:

- Reported improvements in patient behavior and cooperation while in acute care pediatric setting.
- Enhanced satisfaction with overall care experience as noted by both families and staff.

Due to limited sample size, ongoing data collection is in progress.

## NURSES ROLE

Nurses can evaluate the sensory needs of the pediatric patient and identify who would benefit from sensory diversion utilization. Continuous monitoring of the child's response to sensory item interventions is essential, and nurses must assess the effectiveness and adapt the controlled environment as needed (O'Sullivan & O'Connor, 2020). Documentation is crucial to note the child's response to different stimuli; this way modifications can be made to improve outcomes. By taking an active role in this process, nurses can evaluate the efficacy of the sensory diversion activities to manage anxiety and behavioral de-escalation, which optimizes the overall patient/family experience.

## FUTURE PLANS

Key Findings:

- Sensory carts were effective in creating calming environments for pediatric patients.
- Staff noted decreased behavioral incidents and improved medical procedure cooperation.
- Nurses played a pivotal role in assessment, intervention delivery, and documentation.
- The project fostered interprofessional collaboration and promoted an inclusive, trauma-informed care model.

Implementation of mobile sensory carts in pediatric emergency settings can significantly enhance care for neurodivergent children and those experiencing distress. These tools support patient-centered, non-pharmacologic interventions and affirm the nursing role in promoting therapeutic environments. The initiative demonstrates how targeted sensory diversion reduces behavioral disruptions and aligns with institutional goals for diversity, inclusion, and patient safety.



## REFERENCES

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