

# A community-driven toolkit to improve rural emergency department accessibility for autistic children and their families

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**ABSTRACT:**

Autism core characteristics and sensory processing differences can create significant barriers to families accessing and children receiving emergency healthcare in the heightened sensory and fast-paced environment of emergency departments, particularly in rural communities. This project aimed to use a community-collaborative approach to develop and disseminate educational materials, recommend emergency department environmental modifications, and implement sensory regulation supports to enhance the capacity of healthcare providers and staff in supporting autistic children within rural emergency department settings. An interdisciplinary community-academic partnership team including researchers, graduate students, parents, an autistic focused organization, healthcare providers, and hospital staff used an iterative process to co-create materials. The collaboration yielded a multi-faceted toolkit with high acceptability from health care team members. The toolkit products included educational materials, environmental adaptations, and sensory-friendly tools. Future research should explore toolkit modifications to allow for implementation across unique emergency department contexts and assess healthcare related outcomes to measure toolkit effectiveness.

**KEYWORDS:** Autism; Sensory Processing; Emergency Department; Accessibility

One in 31 children in the U.S. are diagnosed with autism, characterized by challenges in communication, social interaction, and meeting age-appropriate developmental milestones.<sup>1,2</sup> Core symptoms emerge in early childhood and can impact daily functioning, including navigating healthcare environments.<sup>3</sup> Autistic children\* are also more likely to have co-occurring conditions including epilepsy or seizures,<sup>6</sup> anxiety disorder,<sup>7,8</sup> sleep difficulty,<sup>9,10</sup> gastrointestinal challenges,<sup>11-13</sup> and feeding-challenges<sup>14</sup>, making access to healthcare especially important.<sup>15</sup> Treatment of emergent medical conditions while navigating the complex physiological and psychological characteristics of autism make emergency care particularly difficult, increasing stress for children, families, and providers.<sup>16-18</sup> It is critical for healthcare providers to deepen their understanding of autism and commonly co-occurring conditions to deliver effective care in urgent and emergency contexts.

For autistic children, the emergency department often combines high stress with unfamiliar sensory input, which can exacerbate sensory processing differences. About 45–95% of autistic children experience sensory processing differences, which refers to how a child interprets, integrates, and responds to sensory input.<sup>19-22</sup> Sensory processing differences can affect daily life for both autistic children and their families.<sup>23-25</sup> The emergency department (ED) is a new environment with different smells, bright lights, loud sounds, unexpected physical touch, and crowded spaces that create overstimulation for autistic children.<sup>26</sup> Sensory tools and supports being available for autistic children have been found to positively impact the families experience of receiving ED services.<sup>27</sup> Integrating tools and educational resources with input

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\* Please note that we use identity-first language per the expressed preference of autistic individuals.<sup>4,5</sup>

from families with autistic children to address sensory dysregulation can help providers deliver more effective and compassionate care.<sup>16,28,29</sup>

Rural residence can compound the healthcare challenges experienced by autistic children, particularly in how families rely on and navigate ED services. Children in rural areas often experience poorer health outcomes than their urban peers.<sup>30,31</sup> For rural families with autistic children, barriers include lower household income, fewer behavioral support services, decreased access to specialist and limited caregiver assistance.<sup>32-34</sup> Access to both formal and informal resources and support systems mitigate these barriers.<sup>35,36</sup> Rural families with autistic children are twice as likely to travel to urban EDs to meet their care needs compared to rural non-autistic children.<sup>37</sup> Understanding the unique needs of autistic children in rural areas is critical to improving healthcare delivery. Caregivers report that ED environments can negatively impact autistic children due to treatment processes, limited staff knowledge, and sensory overload.<sup>38,39</sup> While barriers exist across ED settings for autistic children, they may be intensified in rural communities because of resource constraints and travel, further impacting the quality and accessibility of medical care.

Improving healthcare access for autistic children is multi-faceted and consideration of their sensory processing needs is essential.<sup>16,40</sup> Previous studies of healthcare providers have self-reported challenges of treating autistic children due to inadequate knowledge of autism and sensory differences.<sup>41,42</sup> The ED experience is improved when staff have increased knowledge of autism and clear communication among the provider, family, and child.<sup>41,42</sup> Beneficial strategies include environmental modifications, provider education on autism, and sensory supports to enhance patient experiences.<sup>18,43</sup> Trialed interventions include creating calm, sensory-friendly spaces, offering sensory support items, and adjusting the pace of care to help children better

understand treatments.<sup>18,43,44</sup> Educating staff on proper use of sensory tools has been shown to reduce stress and improve accessibility for autistic patients.<sup>18,45</sup> Enhancing autism-related training and providing supportive sensory resources in rural EDs can similarly elevate care quality for autistic patients.

While previous research has explored ED-based toolkits to support autistic patients, these efforts typically are centralized in urban pediatric emergency rooms where there is increased access to specialists (e.g., child life) and sensory supports. Additionally, toolkits often focus on one key component (e.g., solely sensory supports), lack the integration of key community members in the development process, and are not accessible to other ED systems. This project aimed to utilize a community-collaborative approach to develop and disseminate educational materials, recommend ED environmental modifications, and implement sensory regulation supports to enhance the capacity of healthcare providers and staff in supporting autistic children within rural ED settings. The purpose of this descriptive paper is to outline that development process and make the completed toolkit available to support adaptation and use in other EDs. The toolkit presented in this paper is available at the following [insert active link].

## **Methods**

This quality improvement project was reviewed by the institutional review board (IRB) and determined that it did not constitute human subjects' research. Therefore, IRB approval was not required for this project.

### ***Theoretical model***

Person-Environment-Occupation-Performance (PEOP-4<sup>th</sup> Ed) was adapted to address the specific needs of this project and community (Figure 1).<sup>46</sup> The PEOP model explains how occupational performance and participation is impacted by person factors, the environment, and

demands of the activity. The PEOP model can be adapted to diverse healthcare and community settings by tailoring the person, environment, and occupation factors to specific needs. For this project, the “person” component included autistic children’s sensory and communication profiles; the “environment” included features of the rural ED such as lighting, noise, crowding, and staff routines; and the “occupation” included specific ED tasks such as waiting during triage, tolerating vital sign measurement, or undergoing procedures. These impact the child’s “performance” of receiving care in the ED. Examining the interaction among the individual, environment, and activity demands, the project team gained critical insight into how to support autistic children’s participation and improve care in the rural ED. Modifying the PEOP model allowed the team to better describe the unique challenges autistic children and their families face in public spaces like the ED and provided a framework for the community and academic team to discuss key components.

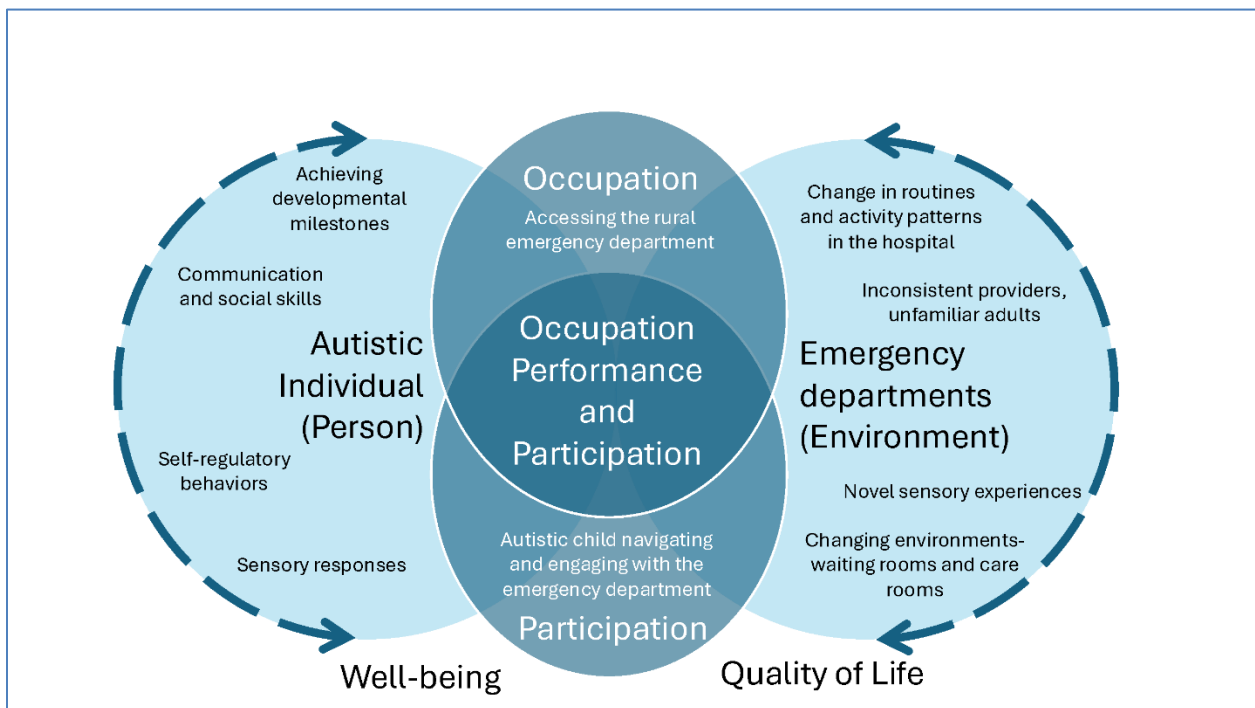


Figure 1. The Person-Environment-Occupation-Performance (PEOP) fourth edition developed by Baum, Christiansen and Bass (2015) was adapted to apply how person factors related to autism and the environment of the emergency room impact the occupation performance and participation of receiving care in the ED.

### ***Partnership description***

Aiming for Acceptance (R. Cutting-president/executive director) provides leadership and advocacy for autistic individuals and their families in their community. Cutting and organization members identified that accessing appropriate emergency room care in rural areas is especially challenging for autistic children due to limited provider knowledge of autism and scarce resources. She initiated a partnership with the senior author and together they created an interdisciplinary community-academic partnership team including researchers and community members \*\* to identify potential barriers to care for autistic children in rural EDs and support the co-development process. Table 1 illustrates the community-academic partnership team members and how they were involved throughout the Emergency Department Toolkit development process. Community members for this project included parents with autistic children, Aiming for Acceptance, healthcare providers, and hospital staff. Three families with autistic children who had frequented the ED provided essential feedback on barriers to accessing ED and feedback on toolkit materials from a care recipient's point of view. Aiming for Acceptance facilitated the partnership with the rural ED, advised the project team on larger community health care needs, and participated in the iterative development process. Health care providers and staff from one rural hospital in Wisconsin included ED administration, nursing, physicians, and ED support staff that were able to describe current practices and needs in their setting from multiple

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\*\* We intentionally avoid the term stakeholder due to its colonial and extractive connotations, opting instead for community partners to reflect equitable and relational engagement.<sup>47</sup>

perspectives. The academic members included researchers, licensed occupational therapists, and occupational therapy students who completed a literature search, participated in toolkit development, implemented feedback from community members and supported the development of the manuscript. Community-based participatory research principles were an essential component of the process to ensure that meaningful priorities were identified, building on community identified needs, the social-context validity of materials prior to implementation, and considerations for sustainability of the toolkit.<sup>48,49</sup> Table 2 outlines the application of Israel and colleagues' community-based participatory research principles specifically to the ED project.<sup>48,49</sup> Community members were asked to provide their perspective on relevant challenges for families and autistic children, and approaches to mitigation to improve the quality of care in the ED setting. The team was asked to provide feedback and recommendations through their unique perspectives several times throughout the co-creation of the toolkit materials.

### ***Toolkit development***

An initial literature search was conducted to identify current evidence-based practices to support increasing the accessibility of the healthcare environment for autistic individuals. The results provided the foundation for the toolkit development and integration of evidence-based recommendations. Literature findings supported a multi-faceted implementation of changes including tools to navigate sensory processing differences (e.g., sensory toys and fidgets), room adaptations (e.g., dimming lights), increasing communication between parents and providers, and enhancing healthcare provider knowledge on autism.<sup>16,18,39,43,50</sup> The current literature posits the importance of including varied sensory-based education, strategies, and environmental modifications to support the diverse sensory needs of autistic children in the hospital setting.<sup>16,18,43</sup>

The project team conducted a site visit at a Midwestern rural ED to collect more information to support the development of this toolkit. Project team members did an observational walk-through of the department as well as interviews with key personnel to better understand the challenges within this specific ED. The site visit concluded with two separate presentations by the project team to ED staff and personnel regarding relevant topics such as, “What is Autism?” and “What is Sensory Processing?”. After these presentations, staff members asked questions and discussed how the information was relevant to their specific ED setting and further discuss their needs. An iterative process of working with the community-academic partnership team, integrating information from observations and interviews, and building on the literature led to the finalized development of toolkit resources. Feedback was obtained and implemented into revisions of materials to increase its accessibility, usability, and appropriateness to the rural ED environment and the needs of its patients. Unique from previous toolkits in the literature, the one developed in this project was built on community-identified needs, was multi-modal, and developed in collaboration with partners in a rural setting.

### **Project Outcomes**

The goals of this project were to create education materials, environmental modifications, and integrate sensory regulation support to accommodate autistic children in ED settings. The final outcome included an Emergency Department Sensory Support and Accessibility Toolkit (Appendix A) that addressed all three objectives. The Toolkit reflected an integration of evidence-based literature, interviews and iterative feedback from members of the community-academic partnership team, and observation of the ED environment. Due to the collaborative development process, Aiming for Acceptance, families with autistic children, and rural ED hospital staff involved in the development process reported high satisfaction with the final toolkit

contents during follow-up feedback sessions. All community partners were retained throughout the development process.

The toolkit products included educational materials, environmental adaptations, and sensory-friendly tools specific to sensory processing differences and needs. The intended audience included ED staff, medical providers, and families with autistic children depending on the specific resource within the toolkit. Table 3 identifies the materials included in the toolkit, purpose, intended audience, and suggested form of implementation. Feedback on the toolkit after initial development was elicited, and changes were implemented based on their critique. Key changes included modifying language on materials to be identity first, removing age-specific language to include a wider patient population to meet a wider number of ED needs, decreasing the amount of content in materials, adding consistent pictures across resources, providing opportunities for materials to meet specific institutional needs, and developing instructions on how materials can be used.

## **Discussion**

The purpose of this project was to develop and disseminate a toolkit in collaboration with community partners to support autistic children and their families negotiating the fast-paced high sensory environment in rural ED settings. The Emergency Department Sensory Support and Accessibility Toolkit incorporated three main components: educational materials for healthcare providers and families, sensory regulation supports, and environmental modifications. The project provided autism sensory resources to both healthcare staff and families in a rural ED using an iterative approach of collaboration and co-creation. Healthcare members and families reported that the finalized materials were responsive to their needs to support increased

accessibility for families and autistic children with the intention of improved care within their facility.

Community collaboration is crucial for effective and inclusive projects and ensures the needs of population groups are prioritized in the process, elevating the voices of those individuals as well as those who support that specific population.<sup>51</sup> All community partners were retained throughout the development process, and all partners have free access to the toolkit. The community-academic partnership for this project included communication and integration of perspectives of both ED staff and care providers as well as caregivers of those who utilize ED services. This ensured that all developed toolkit materials were tailored to the unique needs and health-related priorities of these families and could be feasibly implemented by staff within the ED environment. Aligned with community-based research principles,<sup>48,49</sup> this project was initiated and co-created with a community partner. Additional community engagement was essential for integrating community members' feedback into the project's process to identify important areas of need and fill gaps that may have been previously overlooked. Specifically, including both ED staff and families of autistic children as part of the iterative process assured the complex needs of current medical concerns were met while considering the core characteristics of autistic children in the ED setting. Future phases of this work will more formally evaluate the quality of this partnership using brief quantitative measures of collaboration (e.g., trust, shared decision-making, and satisfaction) and qualitative interviews or focus groups with caregivers, community partners, and ED staff to better understand how the partnership supports implementation and impact of the toolkit in rural EDs.

The long-term goal of the project was to create a toolkit for increased accessibility in rural ED settings that would facilitate high quality care for autistic children and their families.

The first step was completed through a three-pronged approach encompassing ED-specific education, sensory regulation supports, and environmental modifications. Literature currently supports the use of these approaches individually in increasing the quality of ED care.<sup>16,18</sup> The multi-modal approach was intended to provide both immediate and sustainable changes to be implemented within the ED environment as well as long-term cultural shifts in care from staff. Immediate changes for the environment included things such as offering discrete signage to indicate ED rooms with clients needing additional sensory-specific adaptations, menus of changes that providers could implement to support the sensory behaviors of the child, and suggestions for sensory fidgets or toys to support specific sensory needs. Sustainability of the sensory regulation supports were considered through providing innovative ideas (e.g., x-ray vest instead of a weighted blanket) and consideration of costs for items that would be one time use versus reused among children. Intended long-term changes to the ED environment and culture included increased knowledge of autism from staff and providers that supports informed care and increases empathy toward challenging behaviors from patients.

Rural autistic children and their families show an increase in ED usage compared to their urban counterparts but are more likely to travel to urban areas for specialized care.<sup>37,52</sup> Economic differences affected by rurality can also impact the comorbidities in autistic children seeking emergency treatment.<sup>37</sup> The Emergency Department Sensory Support and Accessibility Toolkit can begin to address these gaps in healthcare and provider education that rural autistic children face by better equipping the ED to meet their specific sensory needs and health priorities. This project can provide rural EDs a starting point of having access to resources and ideas that may need to be minimally adapted to meet the unique needs of their geographic region and specific ED. Subsequently, quality of emergency treatment and satisfaction of care from families may

improve with increased competency from providers. For EDs in culturally or geographically distinct areas (e.g., tribal lands, Deep South, or remote regions), adaptation might include incorporating local languages and cultural practices, aligning materials with community and tribal governance structures, and addressing contextual factors such as climate, transportation, and patterns of ED use. By creating a toolkit to facilitate improved quality of care for autistic children in the ED and considering essential cultural and geographic adaptations, families and autistic children have the opportunity to receive more appropriate and effective treatment in their communities.<sup>53</sup>

### ***Limitations and future directions***

While this project marked an important first step in collaboratively developing multifaceted resources for rural EDs, limitations and future directions are important to consider. The toolkit was co-developed with a single rural ED, which may limit its generalizability across diverse geographic and cultural contexts. However, the structure and process used are intentionally flexible and designed to be adapted with local community partners. Differences in community needs and provider education may require further refinement of toolkit components. Future phases should consider partnering with EDs in culturally and geographically diverse regions to adapt the toolkit to local priorities and evaluate its feasibility, acceptability, and impact. Continued community engagement will be essential to adapt the toolkit for broader use.

Although the toolkit has been implemented in a rural ED, outcome data on its impact are not yet available. The next phase should involve a multi-component, mixed-methods evaluation of the toolkit's effectiveness at the staff, family, and system levels. Quantitative outcomes should include ED utilization patterns among autistic children and their families and key process and health-related indicators such as rates of physical or chemical restraint and sedative use, visit

length, and procedure completion. Staff outcomes should be assessed with pre–post surveys examining knowledge, confidence, and perceived preparedness to support autistic children and their caregivers, as well as perceived feasibility and acceptability of the toolkit in routine ED workflow. Caregiver experience should be evaluated using brief post-visit surveys focused on communication, perceived respect and inclusion, sensory comfort, and overall satisfaction with the ED visit. In addition, implementation measures such as toolkit uptake, fidelity of use (e.g., frequency and consistency of specific strategies), and contextual barriers and facilitators should be gathered through usage logs and qualitative interviews or focus groups with ED staff and, when feasible, caregivers. Finally, tracking the use and perceived usefulness of individual toolkit components and linking these data to short- and long-term outcome changes will help identify which elements drive immediate improvements in care encounters as well as broader shifts toward more inclusive ED culture and practices.

## **Conclusion**

Our project aimed to use an interdisciplinary community-academic partnership to develop tools and resources with the long-term goal of facilitating improved emergency care for autistic children in the rural ED. The Emergency Department Sensory Support and Accessibility Toolkit was developed incorporating environmental modifications, educational materials for providers and families, and sensory regulation supports. It was implemented in the collaborating ED department to support the care of autistic children in the high sensory, fast-paced health care environment. The development of this accessible toolkit for autistic children accessing care in rural EDs adds to the emerging literature on supporting inclusive care and overall health promotion in this unique and underserved population.

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Families with autistic children		X		X	
Rural emergency department staff		X		X	X

**Table 2. Application of the nine community-based participatory research principles to the Emergency Department project**

<b>CBPR Principles</b>	<b>Application to ED Project</b>
Community is the unit of identity	Community was defined as rural Wisconsin emergency department and autistic children and their families that live in rural Wisconsin
Build on the strengths and resources in the community	Leveraged community strengths of existing hospital resources, family perspectives, and hospital staff knowledge to guide toolkit resources and priorities
Collaborative and equitable partnership in all research phases	Aiming for Acceptance initiated the project. An interdisciplinary community-academic partnership team completed needs assessment, co-developed toolkit materials, and completed iterative revisions of the toolkit based on feedback
Co-learning and capacity building	Families and advocates deepened the team’s understanding of autistic children’s ED experiences. Providers and researchers-built capacity for sensory-informed care through site visits, toolkit development, and educational sessions (e.g., “What is Autism?” and “What is Sensory Processing?”)
Mutually beneficial for all partners	Hospital staff received practical tools and training that will provide sensory friendly care for autistic children and their families, which will increase access to care
Cyclical and iterative process	Integrated literature review, site observations, interviews, and multiple rounds of community feedback, leading to changes in language, format, and visual design to enhance accessibility
Grounded in theory	Person-Environment-Occupation-Performance model guided the project by framing how autistic children’s characteristics, ED environments, and task demands interact, informing toolkit content and environmental recommendations
Dissemination to the community	Toolkit products were disseminated directly to the rural ED community to support everyday practice with autistic children and their families.
Commitment to sustainability	Project considered the cost and reusable sensory tools (e.g., using an x-ray vest instead of a weighted blanket), and alongside goals for ongoing staff learning and improved care over time.

CBPR principles were based on Israel and colleagues (1998;2003).

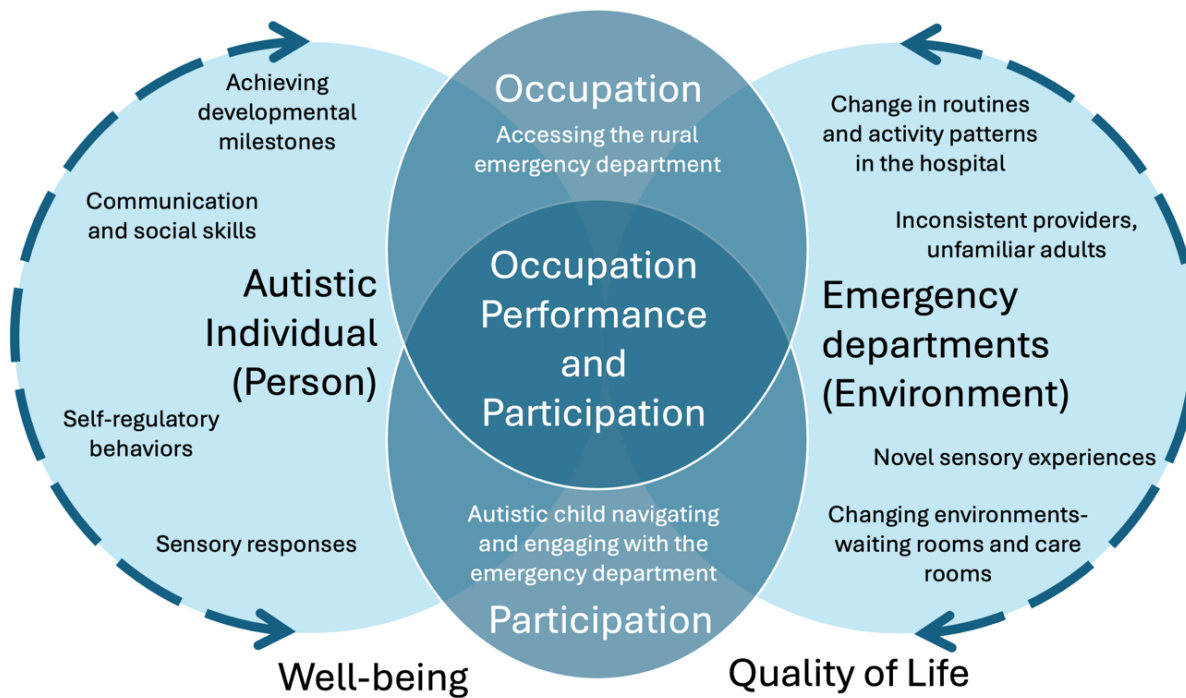
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## Figure Legends

Figure 1. The Person-Environment-Occupation-Performance (PEOP) fourth edition developed by Baum, Christiansen and Bass (2015) was adapted to apply how person factors related to autism and the environment of the emergency room impact the occupation performance and participation of receiving care in the ED.

**Figure 1. Adapted PEOP Model for Autistic Children in Emergency Departments**



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# **Emergency Department Sensory Support and Accessibility Toolkit**

## **Dissemination Manual**

### **1. INTRODUCTION**

### **2. THEORETICAL MODEL**

### **3. SENSORY KIT TOOLS**

- a. Autism and sensory processing educational slides**
- b. SENSORY PROCESSING FLYER**
- c. BLUEBIRD SIGN**
- d. SENSORY RECIPE CARDS**
- e. SENSORY FRIENDLY ROOM CHECKLIST**
- f. ROOM ASSESSMENT AND CONSIDERATION FORM**
- g. “LET US KNOW” SIGN**
- h. SENSORY PROCESSING NEEDS CHECKLIST**
- i. SENSORY TOOLS MENU**
- j. SOCIAL STORIES EXAMPLES**

ACKNOWLEDGEMENTS: We like to thank our community partners, Aiming for Acceptance, rural hospital collaborators, and Ausderau Lab team members that contributed to the development of the toolkit materials. Internal funding through the University of Wisconsin Morgridge Center Community based research grant supported this project.

## INTRODUCTION

### PURPOSE

The purpose of this toolkit is to provide emergency department (ED) medical staff and administration the ability to provide individualized care related to sensory dysregulation in autistic patients<sup>1</sup>. The ED can be an overstimulating and stressful environment, especially for children and adolescents who are unable to process the additional sensory stimuli common to the environment. This toolkit aims to provide simple and individualized modifications to the ED environment.

### DEVELOPMENT

This toolkit was initiated by the Aiming for Acceptance collaboration with the Ausderau lab and additional community partners. Initial toolkit dissemination and implementation was first done in rural Wisconsin hospital.

This project was supported, in part, through an internal research grant through the Morgridge Center which supported the development of this toolkit. One of the main objectives of the project was identification of barriers to responsive care in emergency departments through a community-based participatory research - process. Key project community partners included rural hospital staff, healthcare providers, Aiming for Acceptance, and three caregivers who frequently visited the ED for their autistic child. After barriers were identified, the community-academic partnership team developed a toolkit to address identified barriers. The products in the toolkit included educational materials, environmental adaptation resources, and sensory-friendly tools and toys specific to sensory processing differences. The completed version of the toolkit was peer-reviewed by the community-academic team before dissemination. Final critiques and revisions were completed following the initial pilot of materials in a rural ED. All toolkit materials can be accessed virtually through the Ausderau lab website or associated peer-reviewed publication appendices. These materials are free and are available to continue to pursue community partnerships and support improved care provision for autistic individuals in rural communities.

### INTENDED USE

The toolkit was developed to support the diverse sensory needs of autistic children and their caregivers and improve accessibility of ED services for autistic individuals living in rural communities. Included resources are intended to either (1) provide education to healthcare providers, (2) support modification of the physical environment, or (3) support autistic individuals and their specific sensory needs while accessing ED care. Medical staff, administrators, allied health professionals, and autistic individuals and their caregivers are the intended toolkit users. Additional notes on intended use, audience, and desired outcome of each item within the toolkit are listed below in Table 1. Although descriptions of suggested modifications for specific sensory needs are provided, the authors understand and encourage further investigation with families and caregivers regarding the appropriateness of tools for their child. The authors note if the child has specific accommodations that work best for them due to cultural concerns,

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<sup>1</sup> Please note that we use identity-first language per the expressed preference of autistic individuals.

language barriers, or tools and modifications that are more age-appropriate than offered in this toolkit, that the use of these alternative tools would be equally, if not more, beneficial.

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## THEORETICAL MODEL

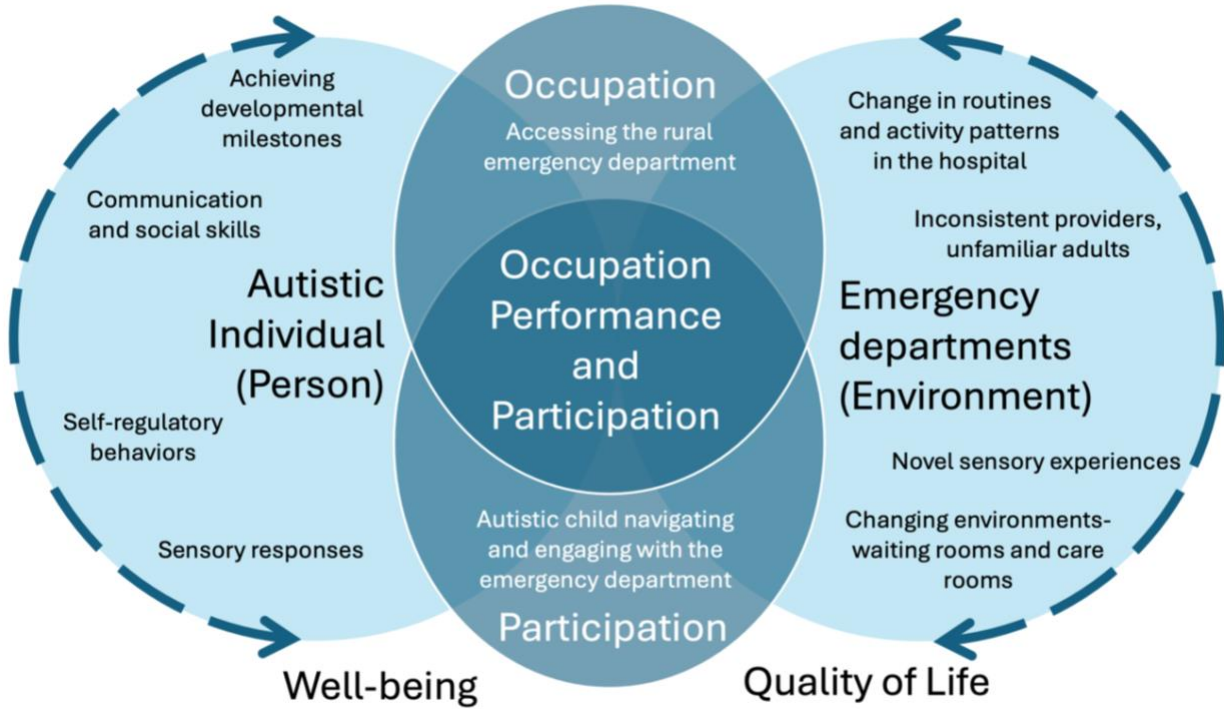
The Person-Environment-Occupation-Performance (PEOP) theoretical model was used to support participation and engagement in a public institution environment. Developed by Baum and colleagues (2015) fourth edition, this model provides a foundation for understanding how successful participation (“performance”) in a given activity (“occupation”) occurs as the result of complex interactions between an individual and their environment. In this model, “person” is understood as an individual with a unique set of strengths and abilities related to their intrinsic physical, psychological, cognitive, and neurological resources. The “environment” refers to all elements outside the individual, which provide the context in which an activity takes place. Examples of these environmental factors include physical space, cultural context, social obligations, etc

We have adapted the PEOP model to consider how families with autistic children and sensory processing differences engage in visiting public spaces such as emergency departments. For example, it may be difficult for a child who is hypersensitive to noise (“person”), to participate in an exam or procedure (“occupation”) during a busy or peak period in the emergency department (“environment”), as evidenced by the child covering their ears or eliciting problematic behaviors (“performance”). In our model, shown below, we have adapted the “person” category to encompass a child’s individual abilities and developmental functioning that may influence engagement in a public environment. We have further adapted the “environment” category to highlight aspects of the environment, which a public institution such as a hospital, specifically, the emergency department, could influence or control. The decisions an institution, like an emergency department, makes about its environment have the potential to increase or decrease a child’s likelihood of successful participation in the environment. Together, the child’s personal factors and the institution's environmental factors can be addressed to increase the quality of care for patients with sensory processing challenges. Below shows the model adapted to use in the ED environment.

### Reference:

Baum C, Christiansen CH, Bass JD. The Person-Environment-Occupation- Performance (PEOP) model. In: Christiansen CH, Baum CM, Bass JD, editors. Occupational therapy: Performance, participation, and well-being. 4th ed. Thorofare, NJ: SLACK Incorporated; 2015. p. 49–56.

## Adapted PEOP Model for Autistic Children in Emergency Departments



## **Autism and sensory processing educational slides**

### **PURPOSE**

The purpose of this presentation is to provide a brief explanation of autism and sensory processing differences in autism. The presentation provides an explanation of why it is important for rural EDs to create modifications to support the care for families and autistic children. The presentation goes over 5 steps of 1) identify the child's needs early on, 2) waiting room modifications, 3) adding autism specific questions to intake and documentation, 4) Considerations and strategies to support sensory needs, and 5) staff education. The intended audience is healthcare providers and hospital staff to provide education on the specific needs of this population and how it may present in the ED setting. It can also provide additional information on how to modify care in the ED to support care.

### **IMPLEMENTATION**

This presentation is intended to be used to support training hospital staff and healthcare providers. The presentation should be used to elicit discussion and create actionable steps that support modifications to emergency department care from arrival to departure from the ED.

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## Autism and Sensory Processing in the Emergency Department

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EXAMPLE EDUCATIONAL  
PRESENTATION FOR HOSPITAL STAFF  
AND HEALTHCARE PROVIDERS

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### Objectives

1. Discuss key characteristics of autism spectrum disorder and sensory processing
  2. Describe autism and the emergency department (ED) in rural and urban areas
  3. Discuss potential sensory and behavioral responses to an ED environment
  4. Describe behavioral responses to sensory stimulation
  5. Discuss potential strategies and adaptations to support people in the ED environment
- 

### Terminology

When working directly with an autistic individual the health provider and staff should ask if they prefer identify first or person first language. It is important to respect family and individual preferences

For the purpose of this presentation, we will be using identity first language as an expressed preference by the broader autistic community

Oberly et al., 2020; Lal et al., 2019

**1 in 31**  
children in U.S.  
diagnosed with  
autism



Shaw et al., 2020

### What is Autism Spectrum Disorder?

#### Core Symptoms

- Social-communication deficits
- Restrictive and repetitive behaviors

American Psychiatric Association, 2013

### Autism and co-occurring conditions

Common co-occurring conditions with autism can include:

- Epilepsy or seizures (Lachar et al., 2019)
- Anxiety disorders (Pozorini et al., 2017; van Steensel et al., 2011)
- Sleep difficulty (Jui et al., 2018; Tye et al., 2019)
- Gastrointestinal difficulties (Berg et al., 2016; Sparks et al., 2018; Williams et al., 2011)
- Feeding challenges (Gadow et al., 2020)

### Autism and the Emergency Department

- **Medical needs are the priority**
- EDs are an unfamiliar and fast-paced environment
- **Autistic children are more likely to visit ED compared to children without autism** Beverly et al., 2021; Lynn et al., 2018
  - Health care access
  - Child's health concerns may be difficult to identify
  - Co-occurring conditions



### Rural vs Urban Emergency Departments

Top 10 most frequent first-listed conditions among ED visits related for autistic adolescents and young adults are:

- Mood disorders
- Epilepsy, convulsions
- ADHD, conduct and disruptive behavior disorders
- Superficial injury, contusion
- Other injuries and conditions due to external causes
- Suicide and intentional self-inflicted injury
- Anxiety disorders
- Schizophrenia and other psychotic disorders
- Abdominal pain
- Residual codes, unclassified

Barnett et al., 2021

### Rural vs Urban Emergency Departments

- Autistic children in rural communities, specifically with multiple comorbidities, are more likely to visit the ED compared to urban children with autism
  - Limited access to autism-related services
- Autistic children in rural communities were 2x more likely to have ED visits in urban hospitals than rural non-autistic children

### Autism and Sensory Processing

- Approximately 45–95% of autistic children experience sensory processing differences
- Impacts how a child interprets, integrates, and responds to sensory input

McNabb et al., 2019; Smith et al., 2020; Kelly et al., 2022; Pineda-Figueroa et al., 2017

### 5 Senses



### + 2 more, the forgotten senses...



### Sensory Response Patterns

- **HYPERsensitivity:** (over response) exaggerated or avoidant response to sensory stimuli (e.g., perceiving pain during grooming activities, exaggerated response/tantrum to mild noise)
- **HYPOsensitivity:** (under response) lack of or delayed response to sensory stimuli (e.g., lack of orienting to name call, diminished response to pain)
- **Sensory interests, repetitions, and seeking behaviors:** fascination with or craving of sensory stimulation that is intense and may be repetitive (e.g., fascination with flicking light switch or repetitively touching a textured surface)
- **Enhanced perception:** focus on particular elements of specific stimuli with superior acuity (e.g., hear or see things others typically don't)

Shedden et al., 2012

### What can YOU do?

### High Quality Care for Families with Autistic Children



### Parents and Family as Experts



### Identify the Child's Needs Early On



### Waiting Room

- **Check In**
  1. Provide parent very *brief* survey to help all the staff understand child's needs
  2. Have a visual "Menu" of sensory tools available for the child
  3. Have social story options available for family to review with the child
- **Consider waiting space options**
  1. Can the child and family be immediately transitioned to an appropriate examination room?
  2. If not, is there another quiet space to wait?

### Example of Brief Parent Survey

**Sensory Processing Needs Checklist**

Place a checkmark in the boxes that describe your (or child's) sensory reaction to each sense (paper or type sensitive). We will work hard to support you during our visit. Please see definitions and examples on back of this sheet to support filling out the form.

	↑ HYPER- sensitive	↓ HYPO- sensitive	None
Touch 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Smell 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Taste 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Waiting/Transitions

- Waiting and transitions can be challenging
- Minimize wait times when possible
- Limit transitions from room to room
- Use clear communication to foreshadow next step
  - Predictability as much as possible is important



### Add Autism Specific Questions to Intake Interview

Conduct Brief Parent Interview

Example questions

1. Are there sensory experiences that are difficult for [child's name]?
2. Are there sensory experiences that help [child's name]?
3. What motivates [child's name]?
4. What calms [child's name] after they've become upset?



### Document Child's Needs in Medical Chart

- Based on brief parent interview, document the child's needs in the medical chart to utilize in future visits
- Next visit, know about their needs immediately
- Document diagnosis, behaviors, useful strategies for the child



### Considerations for Sensory Environments, Tools, and Strategie:



### Touch Examples

#### Behavior Possibilities

- Unexpected or exaggerated response to tactile input
- Low or high tolerance to pain
- May not feel typical sensations to heat or cold

#### Considerations

- Hospital gowns
  - Gown alternatives or allowing child to stay in clothes when possible
- Exam tables
  - Consider plating sheet on exam table rather than paper or go without
- Identification bracelets --where can they go? Can they go on the ankle if preferred?
- IV insertion
  - Cubital fossa vs hand



## Touch Examples

### More Considerations

- Give the child extra personal space when possible
- Avoid unexpected touch
- Firm touch is often preferred over light touch
- Child may be most comfortable on caregiver's lap or floor
- Child may want to explore environment
  - Consider sensory fidget and other tools to support the child while in the room

## Sound Examples

### Behavior Possibilities

- Unexpected or exaggerated response to mild environmental noises
- Cover ears, facial and verbal expression indicate discomfort
- Refuse to enter certain spaces in anticipation of painful noises

### Considerations

- Be aware and observant
- Eliminate loud or unfamiliar noises when possible
  - Voices
  - Paper on exam tables
  - Cover or eliminate beeping machines
  - Crowded waiting rooms
- Quiet treatment room when possible
- Provide relaxing sounds if helpful
  - Ask the child and family what is preferred such as music or sound machines



## Smell Examples

### Behavior Possibilities

#### Signs of overstimulation:

- Verbal complaints
- Gagging or covering nose
- Moving away from something
- Throwing up

### Considerations

- Smell of hospital equipment
- Use soap and water vs hand gel
- Remove any noxious scents from the room
- Be mindful of personal perfumes/scents
- Allow the child to keep something near them that is familiar
  - Shirt, blanket, stuffed animal



## Sight

### Behavior Possibilities

- Refusing to enter room
- Hiding face or eyes
- Visual fixation or stimulatory behaviors

### Considerations

- Lighting in the exam room
  - Dimmers
  - Allow child to wear sunglasses
- Consider covering visually stimulating items in exam room
  - Monitors
  - TVs
  - Machines
- Colors of exam room
  - Muted tones



## Taste Examples

- Does the child have taste aversions?
- Use parent strategies for new flavor introduction or taking medicine
- Be clear about what is and what is not allowed
  - If possible, allow medications to be taken with a preferred food such as juice or applesauce
- Be aware of a hyper or extended response to thermometers, medications, or other potentially orally invasive procedures



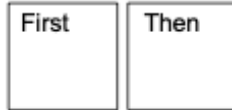
## Vestibular

- Gravitational insecurity
  - May resist being placed in reclined position
  - May be uncomfortable on an exam table
  - May prefer to have feet on the ground or stable surface versus "dangling legs"
- Allow for movement around exam room/hallway if possible
- Calming vestibular input
  - Slow, linear movement
  - Rocking chair
  - Ask caregiver what type of movement is calming



### Proprioception

- Often calming, but not always
- Before something uncomfortable:
  - Use visual schedule to allow child to choose a calming activity First and Then the next one
- Tools
  - Weighted blankets
  - Weighted vests (or vest from x-ray)
  - Pressure activated vibrating pillows
  - Buzzy Bee → block pain from needle injections



### General Points to Remember

- Check in with parents *before, during, and after* the visit
- If child becomes overloaded, they may become anxious and resistant to treatment
- Child may show signs of distress
- Child may respond with frustration, hostility, anger, self-injury, or repetitive behaviors due to sensory overstimulation
- May notice self-stimulating activity or body movements that the child is using for self-calming

### Self-Stimulatory Behavior

- Highly individualized for different children and their needs
- May include rocking, spinning, hand flapping, jumping, or a wide range of other activities
- Usually highly repetitive in nature
- Typically, not a negative behaviors
- Promotes self-soothing and calming for the child

### Communication Considerations

- Ask what form of communication works for child
  - Examples may be oral, paper and pen, pictures, social stories, schedules
- Talk to the child even if you are unsure if they understand you
- Assume the child understands even if their verbal expression skills are younger than their chronological age
- Allow extra time for the child to respond to your question or direction
- Tell the child/caregiver everything the team is going to do right before they do it
- Use toy doll, stuffed animal, or picture to demonstrate medical procedure when possible

### Social Story Example

### Sensory Toolbox Ideas

- Sound cancelling headphones
- Sensory fidgets
  - Fidget = interesting thing to hold on to and manipulate to calm
  - Many different types of items may be included
  - Should include items with a variety of features, colors, and shapes
  - Remember that some children may put them in their mouths to chew on, so consider having items that are safe for oral exploration
- Stress balls
- Bubbles
- Vibrating seat
- Weighted cushion
- Chew tubes
- Sun glasses





## **Sensory Processing Flyer**

### **PURPOSE**

The purpose of this flyer is to provide a brief explanation of common sensory processing differences in autism. The flyer shows the impact of being hyper or hypo-sensitive to six senses: smell, hearing, vision, touch, vestibular, and proprioception. While taste is not included in the flyer, an autistic child may have extreme taste hypersensitivity beyond their peers' experience, which could impact medication intake or putting any medical equipment in or around their mouth. The intended audience is healthcare providers and hospital staff to provide education on the specific needs of this population and how it may present in the ED setting. It can also provide additional information on how to identify problematic sensory challenges that may arise from the stressful stimuli that may be necessary during emergency care.

### **IMPLEMENTATION**

This flyer is intended to be used in conjunction with other sensory processing informational materials available to providers and staff. The flier may be posted in areas for quick reference such as nurses' stations, staff communal areas, and ED patient rooms.

# What are... SENSORY PROCESSING DIFFERENCES?

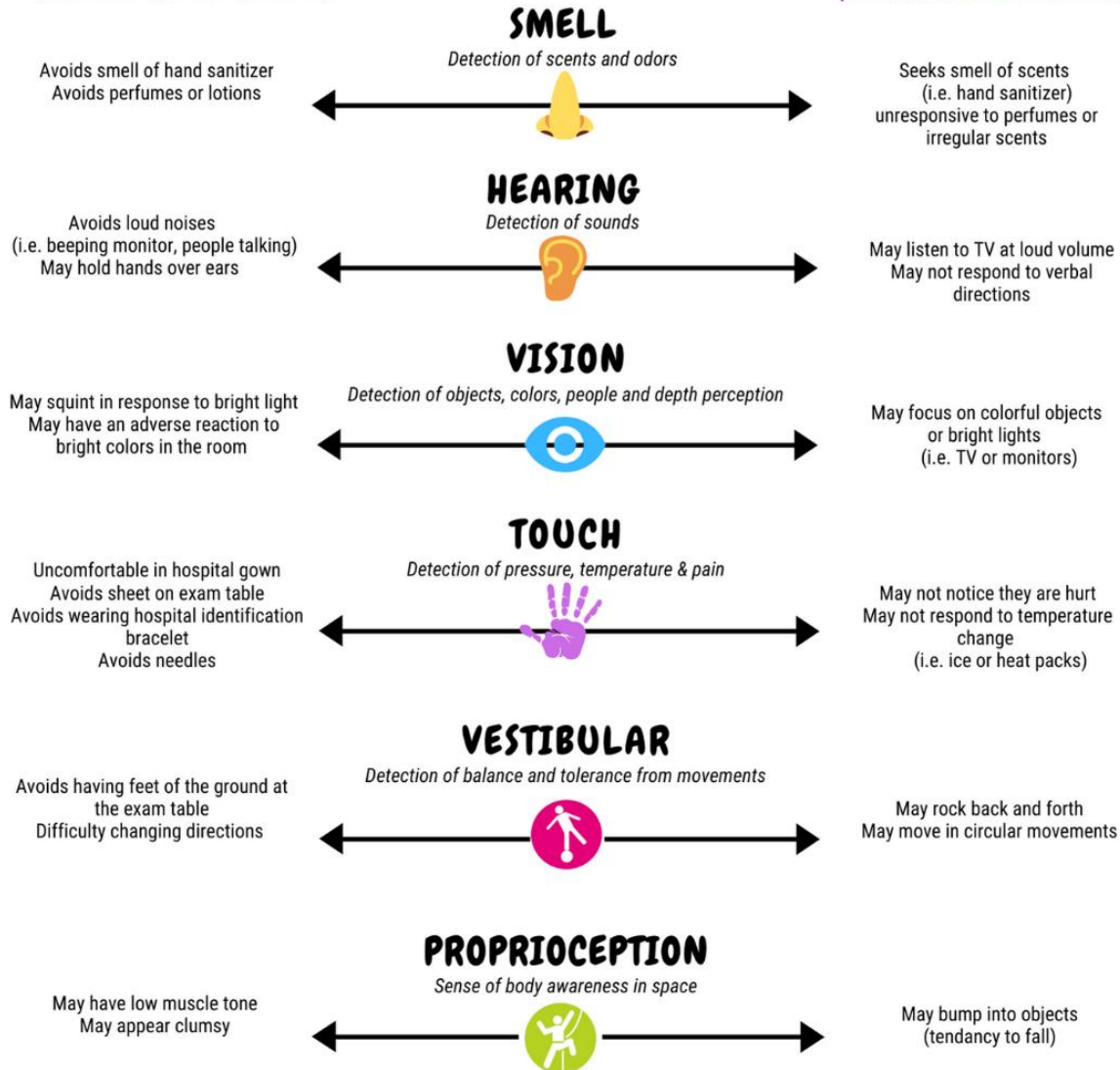


Sensory processing involves the ability to take in, organize and make sense of different kinds of sensations received by the brain. This includes taking information from our 7 senses (smell, auditory, vision, tactile, taste, vestibular and proprioception) and integrating this information to create a meaningful response.

**"HYPER" or "OVER" Sensitive**  
(Child **AVOIDS** stimulation)

## SENSES

**"HYPO" or "UNDER" Sensitive**  
(Child **SEEKS** stimulation)



## **Discrete Sensory Identification Symbol for the Door**

### **PURPOSE**

This sign aims to inform healthcare providers and staff that there is an individual or child in a care room with specific sensory needs.

### **INSTRUCTIONS**

The intended use of this sign is to be laminated and posted near the door of rooms that are available to autistic individuals experiencing sensory challenges. When the child is in the room the laminated sign will go onto the door. Healthcare providers and staff should be instructed to consider sensory needs of the care recipient and to limit unnecessary visits into the room.



## Sensory Recipe Cards

### PURPOSE


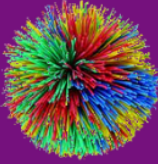

The purpose of sensory recipe cards is to provide quick, accessible recommendations to providers and staff to alter the care room to fit the specific sensory sensitivities and needs of the autistic child. Its intended audience is healthcare providers and staff who can quickly make accommodations during a child's visit to the ED after receiving information about the individual's specific sensory needs and stressors. Each recipe card focuses on the different areas of sensory processing including hearing, touch, taste, smell, vestibular, proprioception, and sight to provide different accommodations, modifications, and environmental adaptations.

### IMPLEMENTATION

These cards are intended to be available in easily accessible physical areas such as a nurses' station, treatment rooms, or digitally and available to providers and staff after the parent or caregiver fills out the **Sensory Processing Needs Checklist** indicating what may help facilitate their emergency care in a quick and effective manner.

# TOUCH

RECOMMENDATIONS



**Hypersensitive** ↑

**Hyposensitive** ↓

<p>1</p> <p><b>AVOID UNNECESSARY TOUCH</b></p>	<p>2</p> <p><b>FIRM TOUCH IS BETTER THAN LIGHT TOUCH</b></p>	<p>3</p> <p><b>FABRIC SHEET ON EXAM TABLE OR GO WITHOUT</b></p>	<p>1</p> <p><b>FABRIC SHEET ON EXAM TABLE OR GO WITHOUT</b></p>
<p>4</p> <p><b>ALLOW CHILD TO STAY IN CLOTHES WHEN POSSIBLE</b></p>	<p>5</p> <p><b>FIND ALTERNATE LOCATION FOR ID BRACELET</b></p>	<p>6</p> <p><b>CONSIDER IV INSERTION INTO CUBITAL FOSSA</b></p>	<p>2</p> <p><b>CONSIDER IV INSERTION INTO CUBITAL FOSSA</b></p>

# VISON

RECOMMENDATIONS



## Hypersensitive ↑

- 1 DIM LIGHTING IN ROOM
- 2 OFFER SUNGLASSES
- 3 COVER MONITORS AND LIGHTS WHEN POSSIBLE

## Hyposensitive ↓

- 1 ENSURE CHILD IS WEARING WHAT THEY NEED TO SEE
- 2 OFFER VISUAL SENSORY TOY
- 3 ALLOW FOR CHILD TO EXPLORE ROOM

# SOUND

RECOMMENDATIONS



## Hypersensitive ↑

1

**AVOID NOISY ENVIRONMENTS**

2

**USE A QUIET TREATMENT ROOM**

3

**OFFER HEADPHONES**

4

**PROVIDE MUSIC OR A SOUND MACHINE**

## Hyposensitive ↓

1

**OFFER MUSIC OR SOUND-PRODUCING TOY**

2

**ENSURE CHILD IS WEARING HEARING AID, IF APPLICABLE**

# SMELL

RECOMMENDATIONS



## Hypersensitive ↑

- 1 **USE SOAP AND WATER RATHER THAN HAND SANITIZER**
- 2 **BE MINDFUL OF PERFUMES OR STRONG SCENTS**
- 3 **AVOID NOXIOUS SCENTS**

## Hyposensitive ↓

- 1 **ALLOW CHILD TO KEEP SOMETHING FAMILIAR WITH THEM**
- 2 **PROVIDE SCENTED SENSORY TOY**

# VESTIBULAR

## RECOMMENDATIONS



### Hypersensitive ↑

- 1 **ALLOW FOR CHILD TO MOVE SLOWLY IF NEEDED**
- 2 **PROVIDE A STOOL FOR CHILD TO PUT FEET ON**
- 3 **OFFER ADAPTIVE SEATING TO PREVENT SITTING IN A RECLINED POSITION**

### Hyposensitive ↓

- 1 **PROVIDE A SAFE SPACE FOR MOVEMENT**
- 2 **REMOVE OBSTACLES IN THE ROOM**

# PROPRIOCEPTION

## RECOMMENDATIONS



### Hypersensitive ↑

- 1 **DIM LIGHTS AND TALK QUIETLY**
- 2 **OFFER BUZZY BEE FOR SHOTS**
- 3 **OFFER VISUAL SCHEDULE OR SOCIAL STORY BEFORE SOMETHING UNCOMFORTABLE**

### Hyposensitive ↓

- 1 **OFFER WEIGHTED BLANKET OR ALTERNATIVE SUCH AS LEAD PADS USED IN X-RAYS**
- 2 **OFFER CHEW TOYS**
- 3 **MAKE AN OPEN SPACE FOR CHILD TO MOVE AROUND**

## **Sensory Friendly Room Checklist**

### **PURPOSE**

The purpose of the sensory friendly room checklist is to list possible accommodations and alterations that can be quickly made in the care room depending on the needs of the child. Its intended audience is healthcare providers and staff who provide treatment for the family. It aims to provide a quick guide that can provide a short-handed list of easy and quick changes that can decrease stress and decrease overwhelming sensory stimulation in the room immediately before or during the visit.

### **IMPLEMENTATION**

The checklist is intended to be laminated where it can be hung, preferably right outside the room for quick reference for staff and providers. The checklist can act as both a reminder and reference for providers as they conduct their care and treatment as well as prepare the room before the autistic child enters. It can also be utilized during the visit as changes need to be made to the room based on the sensory needs of the child.

# SENSORY FRIENDLY Room Considerations

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## Visual

---



Dim the lights



Cover monitors and IV poles

---

## Auditory



Eliminate as much noise as possible from machines and pagers



Offer a white noise machine



Offer noise cancelling headphones

---

## Tactile



Allow child to keep on own clothes if possible



Sensory toys available in room



Fabric sheet instead of paper on the exam table

---

## **Room Assessment and Consideration Form**






















### **PURPOSE**

The purpose of this form is to list potential challenging sensory stimuli in a room that could impact an autistic child receiving emergency care. Its intended audience is healthcare providers and staff who can identify potential challenges that could arise from the different stimuli in the room.

### **IMPLEMENTATION**

The intended use of the form is to be available to medical staff as a laminated sign on the care room wall or as a form for reference.

# Room Assessment and Consideration

<b>01</b>	<b>Visual Stimuli</b> In Room	 Hanging Artwork	 Lights	 Windows	 IV Poles/Monitors
<b>02</b>	<b>Tactile Stimuli</b> In Room	 Exam table sheet material	 Gown material	 Equipment sensation	
<b>03</b>	<b>Noises</b> In Room	 Machines	 Phones	 Pagers	 Intercom
<b>04</b>	<b>Proprioceptive</b> Input	 X-Ray Vests	 Weighted Blankets	 Movement Options	
<b>05</b>	<b>Smells</b> In Room	 Cleaning Supplies	 Garbage	 Hand Sanitizer	 Soap
<b>06</b>	<b>Procedures</b> Administered	 Oral procedures	 Equipment Temperature	 Pain	

## **“Let Us Know” Sign**

### **PURPOSE**

The “Let us Know” sign was created to prompt families and caregivers to let the medical staff know if their child is diagnosed with autism, a sensory processing disorder, mental health needs, or other developmental delays to provide appropriate accommodations. It also acts to gently bring awareness to both their child’s potential needs as well as the openness of staff to make additional changes in their care to mitigate further challenges. Its intended audience is visitors to the ED, specifically families and caregivers with children who have additional sensory needs .

### **IMPLEMENTATION**

The sign is intended to be laminated and posted by the check-in desk, in the waiting room of the ED, or in the care room where family and caregivers can easily see it.



Adapted from American Family Children's Hospital Pediatric  
Emergency Department Child Life Program

## **Sensory Processing Needs Checklist**

### **PURPOSE**










The sensory processing checklist is to be filled out by parents or caregivers to identify the specific sensory challenges and needs of their child. It aims to identify the hypo- and hyper- sensory sensitivities of a child to better inform accommodations and adaptations to the care room. Its intended audience are autistic children and their caregivers in the ED.

### **IMPLEMENTATION**

This checklist is intended to be available with other paperwork upon entering the ED and given by administrative staff. Filling this form out during the initial phase of entry to the ED will help providers and staff provide the most effective interventions to address sensory needs of the child being seen.

# Sensory Processing Needs Checklist

Place a checkmark in the boxes that describe your (or child's) sensory reaction to each sense (hyper- or hypo-sensitive). We will work hard to support you during your visit. Please see definitions and examples on back of this sheet to support filling out the form.

		 <b>HYPER</b> -sensitive	 <b>HYPO /</b> -sensitive	<b>None</b>
<b>Touch</b>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Smell</b>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Taste</b>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Hearing</b>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Sight</b>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Vestibular</b>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Proprioception</b>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Additional comments or details:

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Please return to the registration desk or to your nurse upon completion.

## Definitions and Examples for All Seven Senses

<p><u>Touch- Detection of pressure, temperature, and pain</u></p> <p><u>Hypersensitive</u> - uncomfortable in hospital gown, dislikes sheet on exam table, refuses to wear hospital identification bracelet, light touch or other tactile stimulus may actually be painful</p> <p><u>Hyposensitive</u> - may not notice they are hurt or respond to pain in expected ways, may not respond to temperature change like ice or heat packs in a familiar way, may have difficulty with touch discrimination</p>
<p><u>Smell- Detection of scents and odors</u></p> <p><u>Hypersensitive</u> - dislikes the smell of hand sanitizer, moves away from strong perfumes or lotions, covers nose, gags or throws up in response to mild to intense smells</p> <p><u>Hyposensitive</u> - attempts to smell stronger scents like hand sanitizer, unresponsive towards perfumes or irregular scents</p>
<p><u>Taste- Detection of sweet, sour, salty or bitter taste</u></p> <p><u>Hypersensitive</u> - dislikes the flavor of medicine or toothpaste, prefers bland flavors</p> <p><u>Hyposensitive</u> - eats non-edible or toxic items</p>
<p><u>Hearing- Detection of sounds</u></p> <p><u>Hypersensitive</u> - dislikes loud noises such as beeping monitors or a lot of people talking, holds hands over ears</p> <p><u>Hyposensitive</u> - listens to TV at a louder volume, does not respond to verbal directions</p>
<p><u>Sight- Detection of objects, colors, and people through vision and depth perception</u></p> <p><u>Hypersensitive</u> - squints in response to bright lights, reacts to bright colors in the room</p> <p><u>Hyposensitive</u> - focuses on colorful objects or bright lights like TVs or monitors</p>
<p><u>Vestibular- Detection of balance and tolerance for movements</u></p> <p><u>Hypersensitive</u> - dislikes having feet off the ground at the exam table, difficulty changing directions</p> <p><u>Hyposensitive</u> - rocks back and forth, or moves in circular motions</p>
<p><u>Proprioception- Sense of body awareness in space</u></p> <p><u>Hypersensitive</u> - appears clumsy, holds items loosely</p> <p><u>Hyposensitive</u> - tendency to bump into objects, tendency to fall and seek deep pressure</p>

## Sensory Tools and Materials Menu

### PURPOSE

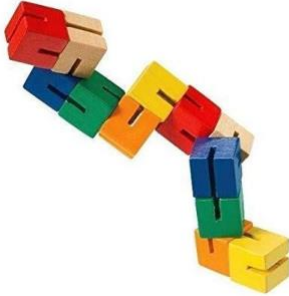
The purpose of this menu is to provide a list of items, toys, and materials that can be used to support the specific sensory needs of the child receiving care. Its intended audience is for the ED staff to provide a list of available items to caregivers while their child is in the waiting room or receiving treatment. Additionally, it provides links for providers and staff to order these tools online for future availability.

### IMPLEMENTATION








This menu is intended to be laminated and distributed as an empty form to caregivers in the waiting room or once they have settled into their care room. These items should be ordered and ready *ahead of time* to be prepared for caregivers to request. Having pictures of the items velcroed directly onto the laminated sheet or bringing the physical items to the caregiver or autistic individual to choose from will support implementing tools that may help calm the individual to facilitate emergency care during their visit.


# Sensory Tool Menu






<p>Vibrating Oral Massager</p> 	<p>Headphones</p> 	<p>Sunglasses</p> 
<p>Water Timer</p> 	<p>Glitter Wand</p> 	<p>Bubbles</p> 
<p>Chewy Tubes</p> 	<p>Light Up Spiky Ball</p> 	<p>Spin Top</p> 

<p>Squishy Stress Ball</p> 	<p>Puffer Ball</p> 	<p>Koosh Ball</p> 
<p>Wooden Puzzle</p> 	<p>Pop Tube</p> 	<p>Rainmaker Toy</p> 
<p>Mini Spinnny</p> 	<p>Toy Car</p> 	<p>Weighted Blanket</p> 

## Examples of Where to Purchase and Cost

<p>Vibrating Oral Massager</p> 	<p><b>Special Supplies:</b> 2 for \$16.99</p> <p><a href="https://tinyurl.com/36pb427j">https://tinyurl.com/36pb427j</a></p>
<p>Headphones</p> 	<p><b>Amazon:</b> 1 for \$9.47</p> <p><a href="https://tinyurl.com/2p8n3b8e">https://tinyurl.com/2p8n3b8e</a></p>
<p>Sunglasses</p> 	<p><b>Amazon:</b> 12 pack for \$8.49</p> <p><a href="https://tinyurl.com/4d55hanf">https://tinyurl.com/4d55hanf</a></p>
<p>Water Timer</p> 	<p><b>Amazon:</b> 3 pack for \$19.99</p> <p><a href="https://tinyurl.com/2p8fbemn">https://tinyurl.com/2p8fbemn</a></p>
<p>Glitter Wand</p> 	<p><b>Amazon:</b> 1 for \$11.40</p> <p><a href="https://tinyurl.com/wucpnk73">https://tinyurl.com/wucpnk73</a></p>
<p>Bubbles</p> 	<p><b>Amazon:</b> 64 for \$12.98</p> <p><a href="https://tinyurl.com/3esksu77">https://tinyurl.com/3esksu77</a></p>
<p>Chewy Tubes</p> 	<p><b>Amazon:</b> 12 pack \$89.99</p> <p><a href="https://tinyurl.com/22zr9mnm">https://tinyurl.com/22zr9mnm</a></p>

<p>Light Up Spiky Ball</p> 	<p><b>Amazon:</b> 5 pack for \$12.99</p> <p><a href="https://tinyurl.com/2p8aa2j5">https://tinyurl.com/2p8aa2j5</a></p>
<p>Spin Top</p> 	<p><b>Amazon:</b> 3 for \$7.59</p> <p><a href="https://tinyurl.com/2p8t26xc">https://tinyurl.com/2p8t26xc</a></p>
<p>Squishy Stress Ball</p> 	<p><b>Amazon:</b> 3 for \$8.81</p> <p><a href="https://tinyurl.com/bdzjs6hb">https://tinyurl.com/bdzjs6hb</a></p>
<p>Puffer Ball</p> 	<p><b>Amazon:</b> 6 for \$13.99</p> <p><a href="https://tinyurl.com/4ehm6wbt">https://tinyurl.com/4ehm6wbt</a></p>
<p>Koosh Ball</p> 	<p><b>Amazon:</b> 3 for \$19.99</p> <p><a href="https://tinyurl.com/368hbr7u">https://tinyurl.com/368hbr7u</a></p>
<p>Wooden Puzzle</p> 	<p><b>Amazon:</b> 6 for \$8.99</p> <p><a href="https://tinyurl.com/mpenprkz">https://tinyurl.com/mpenprkz</a></p>

<p>Pop Tube</p> 	<p><b>Amazon:</b> 8 for \$9.97  <a href="https://tinyurl.com/jdmz4cde">https://tinyurl.com/jdmz4cde</a></p>
<p>Rainmaker Toy</p> 	<p><b>Amazon:</b> 2 for \$9.99  <a href="https://tinyurl.com/y4mj5nv2">https://tinyurl.com/y4mj5nv2</a></p>
<p>Mini Spinny</p> 	<p><b>Amazon:</b> 1 for \$15.79  <a href="https://tinyurl.com/bdecxzcr">https://tinyurl.com/bdecxzcr</a></p>
<p>Toy Car</p> 	<p><b>Amazon:</b> 12 for \$7.97  <a href="https://tinyurl.com/5n7pf52f">https://tinyurl.com/5n7pf52f</a></p>
<p>Weighted Blanket</p> 	<p><b>Amazon:</b> 1 for \$41.99  <a href="https://tinyurl.com/mr2ufvrw">https://tinyurl.com/mr2ufvrw</a></p> <p>Alternative: A weighted x-ray vest or lab pad</p>

# Things to Fidget


Examples that can be used here:

- Puffer ball
- Koosh ball
- Wood puzzle
- Pop tube
- Mini spinner

# Things that are Visually Stimulating


Examples that can be used here:

- Water timer
- Glitter wand
- Light up spiky ball
- Rainmaker toy

# Things that Make Noise


Examples that can be used here:

- Rainmaker toy
- Pop tube

# Things I Can Put in My Mouth


Examples that can be used here:

- Vibrating oral massager
- Chewy tubes

# Things to Squeeze


Examples that can be used here:

- Light up spiky ball
- Squishy stress ball
- Puffer ball
- Koosh ball

# Things to Spin


Examples that can be used here:

- Spin top
- Mini spinny
- Toy car wheels

# Things for Sensory Support


Examples that can be used here:

- Sunglasses
- Headphones
- Weighted blanket

# General Sensory Menu

Things to fidget	Things that are visually stimulating	Things that make noise
Things that I can put in my mouth	Things to squeeze	Things to spin
Things for Sensory Support		

## **Social Story: Emergency Room Visit**


### **PURPOSE**

The purpose of this booklet is to help autistic children prepare for their experience in the ED through a storybook. It helps tell the story of going to the ED with open spaces to allow for customization for specific emergency departments to increase familiarity. Its intended audience is autistic children.

### **IMPLEMENTATION**



The intended use of this booklet is to be available either in a laminated form or available as an editable PDF for parents and caregivers upon or before their arrival at the ED. ED departments could also provide a link on their website for families to access on their way or prior to coming to the ED if possible. In addition, ED departments could work with local healthcare providers to have it available in pediatrician and general practitioner's offices, so families may have an opportunity with their child to review prior to accessing the ED department.

My Trip to the Doctor


Name Of Hospital 

\*\*Background photo of outside of hospital\*\*


My Trip to the Doctor at  
(insert name)




I am going to see the doctor.




First we will park the car.




The big doors will open so we can walk in.



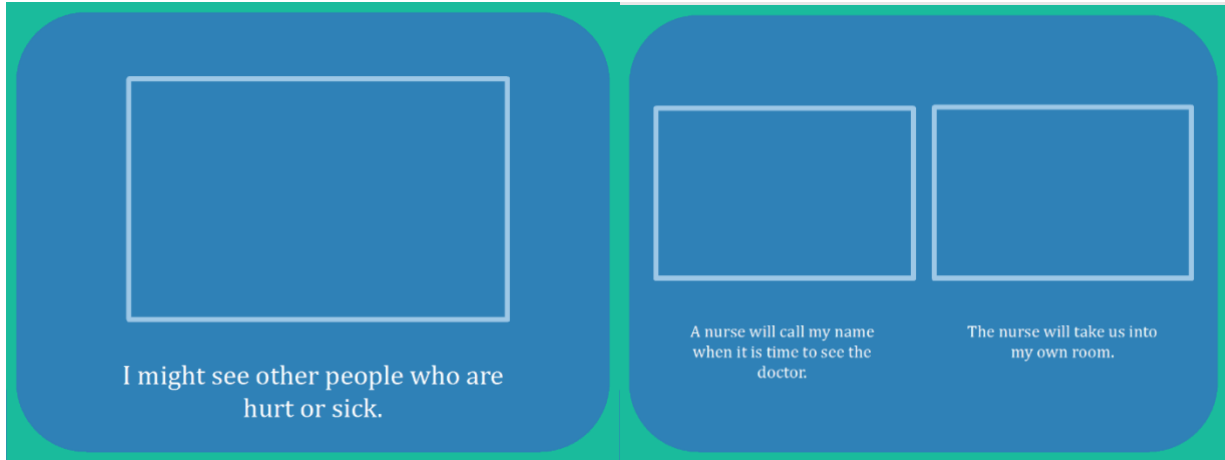
There will be a desk with lots of bright lights.



We will check in at the desk so they know I am here.



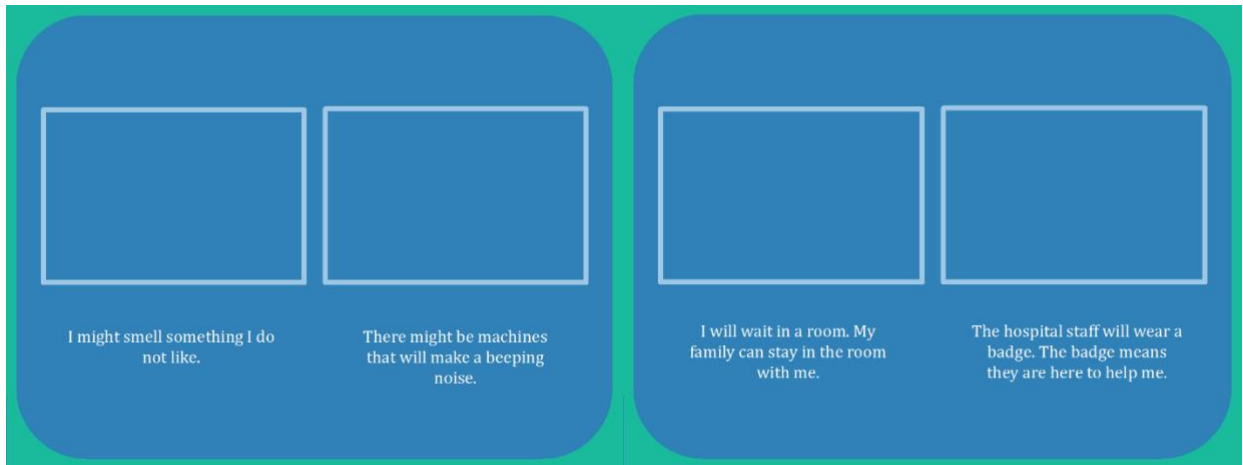
When I check in, I can get a toy from the front desk that might help me wait for my turn.



I might see other people who are hurt or sick.

A nurse will call my name when it is time to see the doctor.

The nurse will take us into my own room.

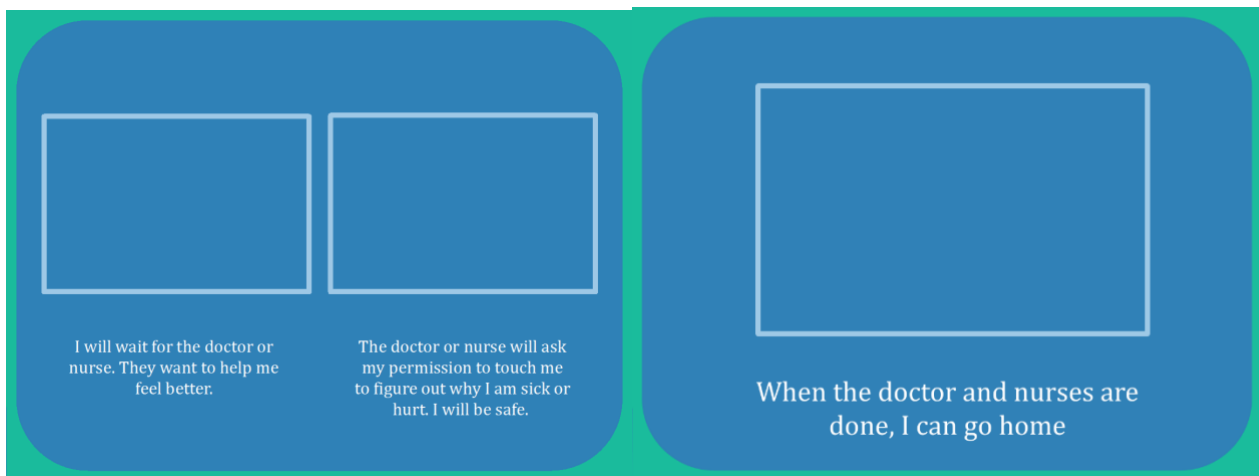


I might smell something I do not like.

There might be machines that will make a beeping noise.

I will wait in a room. My family can stay in the room with me.

The hospital staff will wear a badge. The badge means they are here to help me.



I will wait for the doctor or nurse. They want to help me feel better.

The doctor or nurse will ask my permission to touch me to figure out why I am sick or hurt. I will be safe.

When the doctor and nurses are done, I can go home

## **Social Story: Getting a Medicine Poke**


### **PURPOSE**

The purpose of this booklet is to help autistic children prepare for getting a shot before or after arriving to the ED. It includes open spaces to fill in specific names of family, providers, or the name of the recipient, and places to put pictures of individual emergency departments to increase familiarity. Its intended user is parents and caregivers to fill the booklet out, but the *intended audience* is the autistic child.


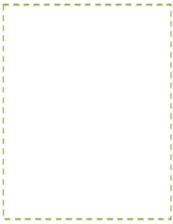
### **IMPLEMENTATION**

The intended use of this booklet is to be available either in a laminated form or available as an editable PDF for parents and caregivers upon or before their arrival at the ED.



# How I Get a Quick Medicine Poke



Today, I am getting a medicine poke.



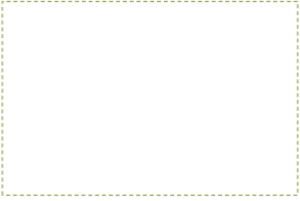
First, I have to sit down on the doctor's table. Then, the doctor comes into the room.




The doctor will say hello to me and my family. The doctor will then ask me questions about myself.




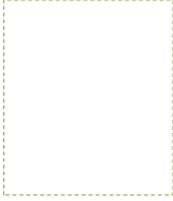
There will be tools needed for a medicine poke.



Seeing the tools for the medicine poke might make me uncomfortable and scared, but my family will be there with me the whole time.




I will pull up the sleeve on my shirt so the doctor can clean my arm to get ready for the medicine poke.



When they clean my arm, there may be a smell I don't like. The pad the doctor cleans my arm with may feel cold.




I can hold my family member's hand as the doctor explains what they're going to do.



The doctor tells me the medicine poke will feel like a pinch, and it will be quick. It may hurt a little.

I will take a deep breath, and the doctor will give me the medicine poke. The shot hurts, but it goes by fast.



The doctor quickly puts a Band-Aid on my arm.

Today I received a shot. I am so proud of myself!