



BOTTOM LINE RECOMMENDATIONS:

Caring for Children with Developmental and Intellectual Disabilities in the ED

Children with developmental delays or disorders (DD) are ten times more likely to use emergency department (ED) services compared to their peers.¹ This can include children with conditions such as autism spectrum disorder (ASD), fetal alcohol spectrum disorder (FASD) and other conditions. This document will provide recommendations for the medical approach to these children.

CHALLENGES

Individuals with DD have different abilities across domains, including their ability to communicate and understand.² Children with DD may exhibit behaviours that are considered unusual for their chronological age, but are normal in the context of their developmental age. These can include non-compliance, aggression, hyperactivity, self-injury, sensory sensitivities, and self-stimulating behaviours.

ASSESSMENT APPROACHES IN THE ED

Most children with DD present to the ED for an acute behavioural change. This can result from a variety of medical, behavioural, and environmental factors.³

1. **Identify:** It is important to identify children with developmental/intellectual disabilities. **Note:** See Environmental Interventions below for immediate actions that can be taken at triage.
2. **Communication:** Determine how the child communicates and their ability to comprehend. Are they non-verbal? Do they communicate with pictures/technology? Determine who to communicate with (child or caregiver) and who makes decisions for the child.
3. **Role of the caregiver:** Caregivers serve as important interpreters of a child's behaviour and can help ED staff effectively interact with the patient to deliver appropriate medical care.
4. **High-yield assessment questions:** The following questions can identify strategies for caring for children with DD.

TARGETED QUESTIONS

CAREGIVER & PATIENT PREFERENCES

- Who is/are the primary caregiver(s)?
- Who should communication be directed to (patient or caregiver)? Should caregiver remain in the room for discussions and necessary procedures, or should they leave the room (either by patient or caregiver preference)?
- When the child has been to the ED or doctor's office in the past, what problems did they face? What problems do they think might arise today?
- How can we help the child have a more positive experience?

MEDICAL ISSUES

- What symptoms brought the family in today?
- Does the child have a history of: epilepsy, gastrointestinal disorders, dental infections, acute otitis media or psychiatric conditions (anxiety, obsessive compulsive disorder, attention deficit hyperactivity disorder, depression, etc.)?
- Has there been a recent change in behaviour and if so, what was it?
- Is the child sleeping normally (for them) or has there been a change in sleep?
- How is dental hygiene (are teeth brushed daily)?
- How does the child communicate discomfort and pain?

MANAGEMENT APPROACHES IN THE ED

Once the above information about the child is ascertained, various environmental, behavioural, and/or pharmacological interventions can be applied.

ENVIRONMENTAL INTERVENTIONS

- Limit time in the waiting room to reduce agitation and anxiety.⁴
- Place family in designated room or quiet room that can be "stripped down" to minimize sensory stimuli.
- Have play materials of various textures and colours to soothe and offer distraction.⁵

BEHAVIOURAL AND COMMUNICATION INTERVENTIONS

- Speak to the patient at their developmental level.⁶
- Physical examination, vital sign taking, and procedures may need to be avoided unless medically necessary.⁶
- Use communication strategies that work for the child in consultation with the parent or caregiver (e.g. FACES Pain Scale).

BEHAVIOURAL ISSUES

- What upsets or agitates the child and are there early warning signs when the child is upset? What can we do to help remove these triggers? What reduces stress or helps them become calm again?
- Ascertain the child's developmental age. At what age does the parent or caregiver think the child is functioning?
- Has the child ever hurt themselves or others when upset?

ENVIRONMENTAL ISSUES

- Is the child sensitive to touch, sound, light or movement?
- What sensory stimuli does the child find calming? Do they have toys, blankets or other objects that calm them?
- Who lives at home with the child and have there been any recent changes?
- Have there been any other major life changes recently for the child?
- What community supports does the child have in place? Does the child have a respite worker?

PHARMACOLOGIC INTERVENTIONS

- Indications for pharmacologic management include pain and acute behavioural symptoms, specifically agitation and aggression.⁵
- Recommended medications for pain management include acetaminophen, ibuprofen and topical anesthetics.
- To treat agitation and anxiety, expert consensus recommends use of benzodiazepines and atypical antipsychotics. **Atypical and idiosyncratic responses are common.**^{6,7} (See Table 1 for more information regarding medications, dosing, and adverse effects.)
- When choosing a medication, dose, and route, it is important to consider previous response to medications, current medication regimen, contraindications in the medical and behavioural history, and current indications for medication use (i.e. procedural sedation, anxiolysis, etc.)^{6,7}
- In general, starting with the lowest possible therapeutic dose is preferred to avoid adverse effects.^{6,7}
- If patient is already on medications (e.g. Risperidone, Olanzapine, or Quetiapine), give on schedule or consider giving 1/4 -1/2 of total daily dose (keeping in mind upper limit of dose range).⁸
- All patients should be considered a fall risk after receiving chemical restraint medication.

Table 1: Medications, dosing, and adverse effects for children with developmental and intellectual disabilities

Drug	Supplied	Dose	Adverse Effects
For anxious agitation or agitation due to unknown cause			
LORazepam	Tablets (oral & sublingual): various Injection: 4mg/mL	Usual: 0.05-0.1 mg/kg/dose, range 0.02-0.1 mg/kg/dose, q4h PRN PO/SL/IM, MAX 2 mg/dose <ul style="list-style-type: none"> • ≤12 years* or <50 kg: 0.5-1 mg/dose, MAX 4 mg/24 h • 13-17 years or ≥50 kg**: 1-2 mg/dose, MAX 8 mg/24 h 	Sedation, postural hypotension, bradyarrhythmia, hypoventilation and/or paradoxical reaction (disinhibition, ↑agitation)
For moderately threatening behaviour or verbal aggression			
OLANzapine	Tablets (oral and rapid dissolve): various	0.03-0.07 mg/kg/dose q6h PRN PO Round dose to nearest 1.25 mg increment <ul style="list-style-type: none"> • ≤12 years or <50 kg: 1.25-2.5 mg/dose, MAX 10 mg/24 h. • 13-17 years or ≥50 kg: 2.5-5 mg/dose, MAX 20 mg/24 h 	Sedation, extrapyramidal symptoms (EPS), QT prolongation Note: Sedation is greater with olanzapine than risperidone
Risperidone	Tablets (oral and rapid dissolve): various	<ul style="list-style-type: none"> • ≤12 years or <50 kg: 0.25-0.5 mg/dose, q6h PRN PO MAX 2 mg/24 hr • 13-17 years or ≥50 kg: 0.5-1 mg/dose, q6h PRN PO MAX 4 mg/24 h 	Sedation, EPS, QT prolongation Note: EPS is greater with risperidone than olanzapine
For severe threatening behaviour, physical aggression, or if oral antipsychotics are refused or are ineffective			
Loxapine	Tablets: 2.5 mg, 10mg, 25 mg Injection: 50 mg/mL	5-25 mg/dose, 0.1-0.2 mg/dose q6h PRN PO/IM <ul style="list-style-type: none"> • ≤12 years or <50 kg: 6.25-12.5 mg/dose, MAX 50 mg/24 hr • 13-17 years or ≥ 50 kg: 12.5-25 mg/dose, MAX 100 mg/24 h 	Sedation, EPS
For EPS (dyskinesia, dystonia, tremor, rigidity, akathisia, akinesia)			
Diphenhydramine		1-2 mg/kg/dose, q6h PRN IM, MAX 50 mg/dose Note: Do not use PO route for dystonic reactions	Sedation, anticholinergic effects

* ≤ - Less than or equal to

** ≥ - Greater than or equal to

The purpose of this document is to provide healthcare professionals with key facts and recommendations for caring for children with developmental and intellectual disabilities in the ED. This document was inspired by Matthew McCreary and we would like to thank the McCreary family for their support and dedication to this work.

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