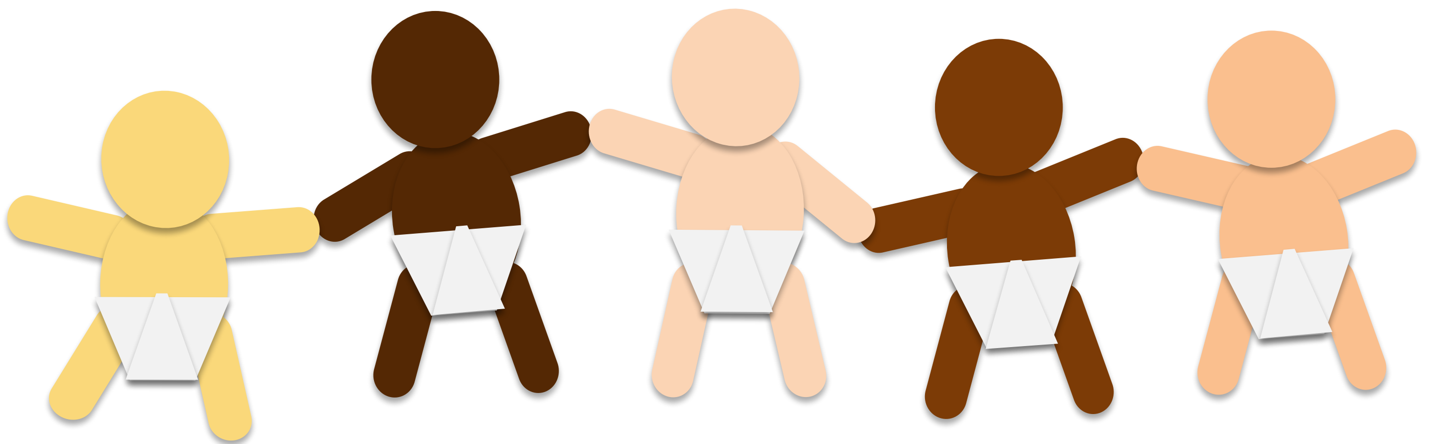
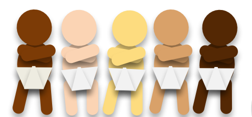
SimBox+
Tele SimBox

Pediatric Agitation



Emergency Department/Hospitalist/Resident



TeleSimBox Educational Media Version 3.0 2023

At the end of this simulation, the participants will be able to:

1. Recognize signs and symptoms of agitation in a pediatric patient, as well as verbalize the level of agitation the patient is exhibiting.
2. Verbalize three verbal de-escalation techniques and/or environmental modifications for the management of pediatric agitation.
3. Reflect on possible unconscious biases and/or untested assumptions experienced by pediatric mental health patients in emergency care.

Overall Scenario Schema

Time	Activity
3 mins	<u>Prebrief:</u> Use the narrated video or your own script.
2 mins	<u>Prepare for the arrival of the patient:</u> Assign roles, assemble equipment etc. Example roles: Team leader/ patient liaison, person obtaining collateral information/ performing chart review
10 mins	<u>Run Case</u> STEM: A 14 year old boy is brought to the Emergency Department with acute agitation. Use the prerecorded patient video.
15 mins	<u>Debrief:</u> Use the guided video script or your own script.
10 mins	Option: Re-run scenario

Link to Agitation Video

Video states: "ED this is an ALS Unit 1, coming in with a 14 year old male who was being aggressive towards his mother at home. We will arrive in 2 minutes."

2 minute warning: Team huddle and preparation

- Team assembles and assigns roles related to agitation response
- Plans for safety check of patient and room
- Asks for equipment as necessary, portable monitors, distraction items
- Alerts security and behavioral health response team if available

"Patient has arrived. He is visibly upset and becoming agitated with his mother in the triage area."

Step 1: Patient arrives via EMS

- Quickly assesses patient with Pediatric Assessment Triangle (PAT)
- Team places patient directly into patient room after room is made safe
- Patient is checked for safety, changed in safe clothing per local protocol; belongings removed, documented and stored

Agitation Level Check and Reflective Pause

1. What behaviors does the patient display to meet the level of agitation you chose?
2. What interventions would you utilize and what does that intervention sound like/look like for this patient? Give examples.
3. What initial assumption could you make about this patient based on his presenting appearance, behavior, chief complaint, etc?

Step 2: Triage

- Confirm the team lead and primary patient contact
- Establish verbal contact with patient
- Obtain collateral information from caregiver

HR 98
BP 111/78
RR 18
Sats 100%
Temp 36.5C

"We are able to get vitals from the patient, however he remains agitated with mom and staff."

Agitation Level Check and Reflective Pause

1. What behaviors does the patient display to meet the level of agitation you chose?
2. What interventions would you utilize and what does that intervention sound like/look like for this patient? Give examples.
3. After interacting with the patient, can we draw any new assumptions about him? How do these assumptions change our interventional plans?

Step 3: Team designations

- Confirm the team lead and primary patient contact
- Obtain collateral information from caregiver

SAMPLE History

Signs/Symptoms: "He came home from school and wanted to play on his tablet. I knew he had homework that needed to be done so I told him he wasn't allowed to play on his tablet until all of his work was completed. He just started yelling and began pushing me when I tried to stop him from leaving the house with his tablet. So I called 911."
Allergies/Medications: No known drug allergies. Takes Adderall daily.
Medical history: ADHD

"The patient is still yelling at his mother. His mother is starting to get more and more upset."

"The patient and his mom continue to be escalated. Should we ask mom to step out of the room?"

Step 4: Continued patient escalation

- Staff encourages the separation of mom from the patient
- Focus on verbal de-escalation techniques: respect personal space, listen to patient, keep neutral tone and body language, identify wants and feelings
- Consider environmental modifications: turning down lights, decreasing noise

Agitation Level Check and Reflective Pause

1. What behaviors does the patient display to meet the level of agitation you chose?
2. What interventions would you utilize and what does that intervention sound like/look like for this patient? Give examples.
3. Based on the staff's interactions with the patient, how do you think they feel about him? Give specific examples of the staff's behaviors.

"Mother has stepped outside of the patient room."

"You were able to separate patient from apparent triggers, but he is starting to become agitated again. Is there anything we can do?"

Step 5: Increase in harmful behaviors

- Intervene during patient elopement from room, possible harm to self.
- Continue verbal de-escalation techniques
- Monitor for early signs and symptoms of escalation and imminent harm
- Discuss plan for oral medication for de-escalation if needed: Review home medications, PRN medications

Agitation Level Check and Reflective Pause

1. What behaviors does the patient display to meet the level of agitation you chose?
2. What interventions would you utilize and what does that intervention sound like/look like for this patient? Give examples.
3. Does this staff response align with staff interventions at your facility? Give specific examples of how they differ.

"The patient seems much more relaxed. It looks like he's going to be in the ED for a while. Can we get him anything while he waits?"

Step 6: Patient responds well to staff interventions

- Continue verbal de-escalation techniques and environmental modifications
- Continue monitoring for early signs and symptoms of escalating agitation
- Call for behavioral health support (i.e. Social Work, Child Psychiatry, Psychiatric Mobile Response Teams)

Supplementary: Continued de-escalation and building therapeutic rapport

- Continue verbal de-escalation techniques and environmental modifications
- Continue monitoring for early signs and symptoms of escalating agitation
- Team gives a summary to Behavioral Health Support Team
- Update patient and family, answer any questions
- Consider how the patient care or outcomes would be if this patient was of a different race? Gender? Ethnicity?

"The Social Work team is here. Can you please give them a status update on what's going on with this patient?"

Step 7: Handoff

- Allow 30 seconds for handoff
- Briefly describe the patient's condition and any relevant events to the situation
- Give a brief assessment and describe any patient safety concerns

After team performs handoff, state **"This concludes the simulation"** and move to debrief.

This page provides possible questions to elicit teaching points during the debrief. These questions are not meant to replace your team's discussion, but can help to steer the debriefing session.

Step One: Reactions

1. How do you think that went?
2. What are your initial reactions to this case? How did you feel throughout the simulation?
3. Were your feelings throughout the simulation similar to those you experienced in comparable workplace scenarios?

Step Two: Description

1. What happened in this scenario?
2. What things worked well throughout the simulation? You can include feedback on the responses by both the simulation group, or the staff responses in the video.
3. What could have gone better? You can include feedback on the responses by both the simulation group, or the staff responses in the video.

Step Three: Analysis

1. Did the group agree on the levels of agitation of the patient?
2. Did the group agree on the types of interventions needed to de-escalate the patient?
3. In your observations from caring for agitated pediatric patients, what factors have impacted their care?
4. Have you noticed any differences in the way care is given?
5. What other social factors do you think may impact care of an agitated child in the emergency department?

Step Four: Application

1. What strategies can you implement in your facility to improve and maintain patient safety?
2. What steps can we take to create a more supportive hospital environment for our patients, particularly populations which face greater instances of biases in healthcare?
3. Which staff can we identify to implement the changes that we've discussed, in the areas of improvement that we have identified today?

Step Five: Takeaways

1. Let's quickly recap what we've learned.
2. What will you take away from this simulation to your workplace?

Disclaimer: Please be aware of the policies and procedures for pediatric agitation, in regards to your facility. Responses to patients experiencing agitation may be subjective to the policies, resources, and physical environment of your department.

IDENTIFYING AGITATION

Mild agitation: subtle behaviors such as fixed stares, irritability, or restlessness
Moderate agitation: raising one's voice, yelling, pacing, or head-banging
Severe agitation: combative behaviors that pose an **imminent risk to the patient or others**

THE TEN DOMAINS OF VERBAL DE-ESCALATION

1. Respect personal space
2. Avoid provocation
3. Establish verbal contact
4. Be concise
5. Identify wants and feelings
6. Listen closely to what the patient is saying
7. Agree or agree to disagree
8. Effectively communicate expectations and set clear limits
9. Offer choices and optimism
10. Debrief the patient and staff

MODIFICATIONS TO THE ENVIRONMENT

- Remove dangerous objects and any equipment from the patient room; consider using portable equipment to obtain vital signs and workstations on wheels to document
- Decrease sources of stimulation; dim the lights, minimize noise, turn off monitors
- Decrease sources of stress; consider removing family and/or caregivers as required to reduce patient triggers
- Maintain a routine and schedule throughout ED stay; keep day and night orientation, continue hygiene and self-care practices
- Avoid the overuse of medications, physical restraints, and security personnel

DEFINING PREVAILING BIASES IN HEALTHCARE

Per AMA Journal of Ethics, the four main types of cognitive bias that affect clinical decision-making are confirmation bias, anchoring bias, affect heuristic, and outcomes bias.

- *Confirmation bias* is the selective gathering and interpretation of evidence consistent with current beliefs and the neglect of evidence that contradicts them
- *Anchoring bias* refers to physicians' practices of prioritizing information and data that support their initial impressions, even when first impressions are wrong
- *Affect heuristic* occurs when physicians move from deliberation to action, they are sometimes swayed by emotional reactions rather than rational deliberation about risks and benefits
- *Outcome bias* refers to the practice of believing that good or bad results are always attributable to prior decisions, even when there is no valid reason to do so

SUPPLEMENTARY SCRIPT FOR IDENTIFYING BIASES IN HEALTHCARE WORKERS

How many of us believe we have bias or stigmatize our patients? Every hand should be raised- we all do! Every one of us has unconscious bias, regardless of identity. It's important to recognize that biases can be inherent or unintentional, stemming from our lived and learned experiences. Our biases are shaped by various factors such as geography, family beliefs, politics, media exposure, and cultural influences. Our biases have both been reinforced and ingrained in society over time, and it's crucial to grasp their origins and recognize them. Doing so can prevent the spread of these biases, ensuring that patient care remains unaffected.

Questions to consider:

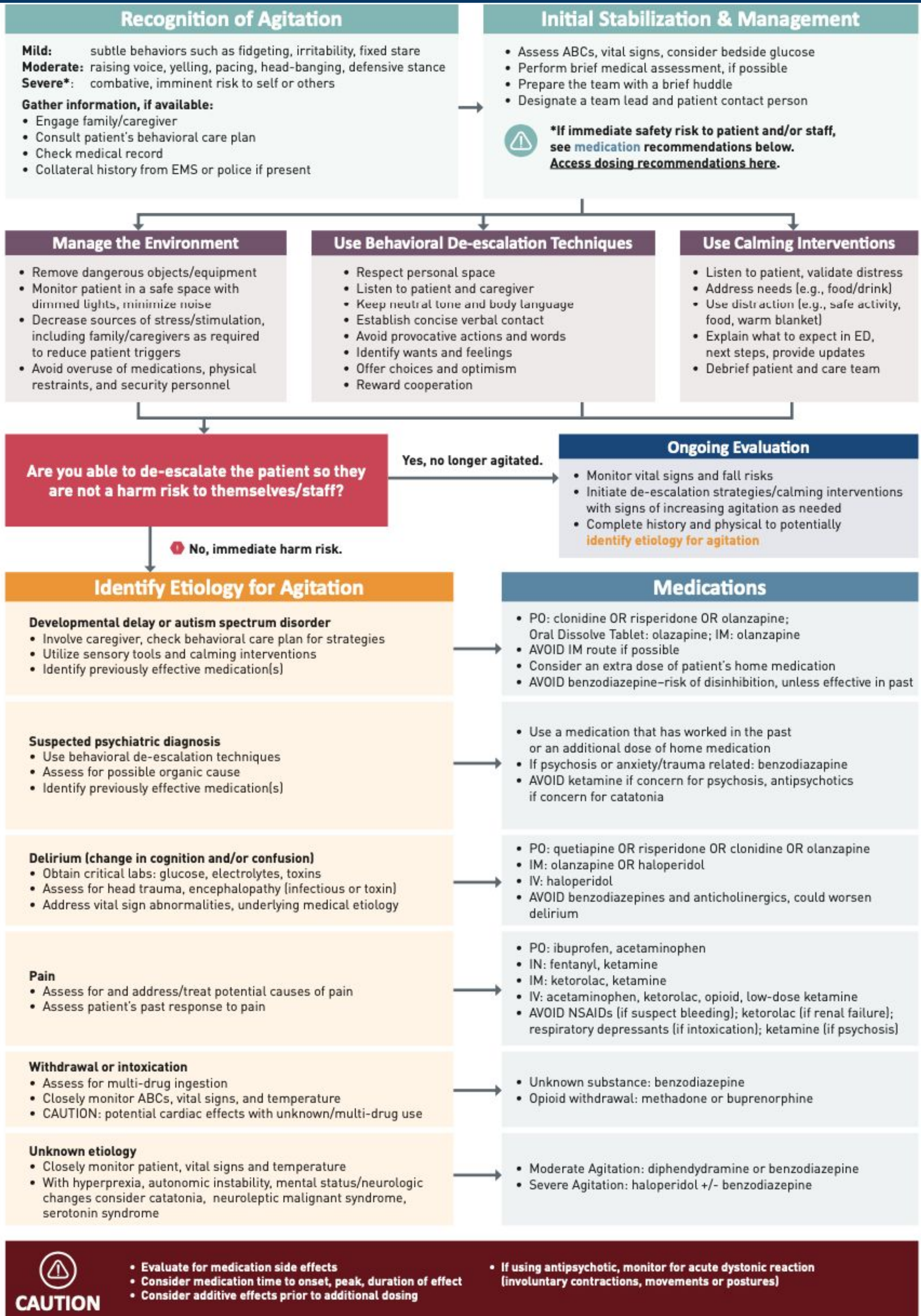
- In your observations from caring for agitated pediatric patients, what factors have impacted their care?
- Have you noticed any differences in the way care is given?
- What other social factors do you think may impact care of an agitated child in the emergency department?

IMPACT OF BIASES IN PEDIATRIC HEALTHCARE

It is crucial to comprehend that despite having good intentions in providing care and never intentionally treating one patient differently than another, we all possess biases that may adversely affect the care we provide to patients. In a study examining restraint use in a pediatric health system, Black, male children were more likely to be restrained when adjusting for demographic and clinical characteristics. Therefore, we must recognize these biases and take steps to combat them, educate ourselves, and deliver exceptional patient care.

TASK		DONE CORRECTLY	NOT DONE CORRECTLY	NOT DONE
Medical knowledge	Distinguish one sign and/or symptom of mild agitation in a pediatric patient.			
	Distinguish one sign and/or symptom of moderate agitation in a pediatric patient.			
	Demonstrate three verbal de-escalation techniques for a pediatric patient presenting with acute agitation.			
	Demonstrate three environmental modifications for a pediatric patient presenting with acute agitation.			
Team-centered care	Identify at least one bias when caring for pediatric patients presenting with acute agitation.			
	Acknowledge the impact(s) of clinical biases on the care and outcomes of pediatric patients presenting with acute agitation.			
Family-centered care	Obtain an appropriate history from the family member (SAMPLE).			
	Address patient and family concerns, update patient and family on care (translate medical aspects of care in plain language).			

Steps	Actor actions	Expected participant response
Step 1	Patient arrives via EMS	Immediately have patient roomed, initial PAT assessment obtained
Step 2	Patient is roomed with mom, to complete triage	Triage patient in room
Step 3	Staff assigns roles, obtains history from mom	Establish clear role and responsibilities, create plan of action
Step 4	Patient continues to be agitated despite the removal of mother from room, and attempts elopement	Employe verbal de-escalation, decrease stimulation, remove parent from room.
Step 5	Patient continues to escalate, shows signs of harmful behavior such as possible elopement	Continue verbal de-escalation and non-restrictive interventions, consider higher level interventions to maintain patient and staff safety.
Step 6	Patient beings to de-escalate after staff interventions	Continue verbal de-escalation and environmental modifications.
Supplementary	Patient responds positively to rebuilding of therapeutic rapport	Examples of modeled verbal de-escalation, as well as building therapeutic rapport to prevent future escalation
Step 7	Hand-off	Follow appropriate handoff procedures



Recognition of Agitation

Mild: subtle behaviors such as fidgeting, irritability, fixed stare
Moderate: raising voice, yelling, pacing, head-banging, defensive stance
Severe*: combative, imminent risk to self or others

Gather information, if available:
- Engage family/caregiver
- Consult patient's behavioral care plan
- Check medical record
- Collateral history from EMS or police if present

Initial Stabilization & Management

- Assess ABCs, vital signs, consider bedside glucose
- Perform brief medical assessment, if possible
- Prepare the team with a brief huddle
- Designate a team lead and patient contact person

***If immediate safety risk to patient and/or staff, see medication recommendations below.**
Access dosing recommendations here.

Manage the Environment

- Remove dangerous objects/equipment
- Monitor patient in a safe space with dimmed lights, minimize noise
- Decrease sources of stress/stimulation, including family/caregivers as required to reduce patient triggers
- Avoid overuse of medications, physical restraints, and security personnel

Use Behavioral De-escalation Techniques

- Respect personal space
- Listen to patient and caregiver
- Keep neutral tone and body language
- Establish concise verbal contact
- Avoid provocative actions and words
- Identify wants and feelings
- Offer choices and optimism
- Reward cooperation

Use Calming Interventions

- Listen to patient, validate distress
- Address needs (e.g., food/drink)
- Use distraction (e.g., safe activity, food, warm blanket)
- Explain what to expect in ED, next steps, provide updates
- Debrief patient and care team

Are you able to de-escalate the patient so they are not a harm risk to themselves/staff?

Yes, no longer agitated. → Ongoing Evaluation

Ongoing Evaluation

- Monitor vital signs and fall risks
- Initiate de-escalation strategies/calming interventions with signs of increasing agitation as needed
- Complete history and physical to potentially identify etiology for agitation

No, immediate harm risk. → Identify Etiology for Agitation

Identify Etiology for Agitation → Medications

Identify Etiology for Agitation	Medications
Developmental delay or autism spectrum disorder • Involve caregiver, check behavioral care plan for strategies • Utilize sensory tools and calming interventions • Identify previously effective medication(s)	• PO: clonidine OR risperidone OR olanzapine; Oral Dissolve Tablet: olazapine; IM: olanzapine • AVOID IM route if possible • Consider an extra dose of patient's home medication • AVOID benzodiazepine–risk of disinhibition, unless effective in past
Suspected psychiatric diagnosis • Use behavioral de-escalation techniques • Assess for possible organic cause • Identify previously effective medication(s)	• Use a medication that has worked in the past or an additional dose of home medication • If psychosis or anxiety/trauma related: benzodiazapine • AVOID ketamine if concern for psychosis, antipsychotics if concern for catatonia
Delirium (change in cognition and/or confusion) • Obtain critical labs: glucose, electrolytes, toxins • Assess for head trauma, encephalopathy (infectious or toxin) • Address vital sign abnormalities, underlying medical etiology	• PO: quetiapine OR risperidone OR clonidine OR olanzapine • IM: olanzapine OR haloperidol • IV: haloperidol • AVOID benzodiazepines and anticholinergics, could worsen delirium
Pain • Assess for and address/treat potential causes of pain • Assess patient's past response to pain	• PO: ibuprofen, acetaminophen • IN: fentanyl, ketamine • IM: ketorolac, ketamine • IV: acetaminophen, ketorolac, opioid, low-dose ketamine • AVOID NSAIDs (if suspect bleeding); ketorolac (if renal failure); respiratory depressants (if intoxication); ketamine (if psychosis)
Withdrawal or intoxication • Assess for multi-drug ingestion • Closely monitor ABCs, vital signs, and temperature • CAUTION: potential cardiac effects with unknown/multi-drug use	• Unknown substance: benzodiazepine • Opioid withdrawal: methadone or buprenorphine
Unknown etiology • Closely monitor patient, vital signs and temperature • With hyperprexia, autonomic instability, mental status/neurologic changes consider catatonia, neuroleptic malignant syndrome, serotonin syndrome	• Moderate Agitation: diphendydramine or benzodiazepine • Severe Agitation: haloperidol +/- benzodiazepine

CAUTION
- **Evaluate for medication side effects**
- **Consider medication time to onset, peak, duration of effect**
- **Consider additive effects prior to additional dosing**
- **If using antipsychotic, monitor for acute dystonic reaction (involuntary contractions, movements or postures)**

EIIC EMSC Innovation and Improvement Center

trekk Translating Emergency Knowledge for Kids

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For more tools visit trekk.ca or emscimprovement.center

https://media.emscimprovement.center/documents/EMS220128_Agitation.pdf

De-escalation Tips for Pediatric Agitation

PEAK
Pediatric Education and Advocacy Kits

Manage the Environment	Use Behavior De-escalation Techniques	Use Calming Interventions
• Remove dangerous objects and equipment • Monitor patient in a safe space with dimmed lights, minimize noise • Decrease sources of stress, stimulation, including family or caregivers as required to reduce patient triggers • Avoid overuse of medications, physical restraints, and security personnel	• Respect personal space • Listen to patient and caregiver • Keep neutral tone and body language • Establish concise verbal contact • Avoid provocative actions and words • Identify wants and feelings • Offer choices and optimism • Reward cooperation	• Listen to patient, validate distress • Address needs (e.g., food or drink) • Use distraction (e.g., safe activity, food, warm blanket) • Explain what to expect in ED, next steps, provide updates • Debrief patient and care team

Remember that long hair, jewelry, necklaces, stethoscopes, and ID badges hanging around your neck can be a potential safety risk when interacting with an agitated patient.

SCAN HERE FOR ADDITIONAL INFORMATION AND RESOURCES

EIIC
EMSC Innovation and Improvement Center

https://media.emscimprovement.center/documents/EMS220819_AgitationResource_220823.pdf

De-escalation Tips for Pediatric Agitation

Manage Environment

- Remove dangerous objects & equipment
- Decrease sources of stress, stimulation, including family or caregivers to reduce patient triggers

Calming Interventions

- Address needs (food/drink)
- Use distraction (safe activity, food, blanket)
- Explain what to expect in ED, next steps, provide updates

There are significant disparities in the use of restraints based on race & ethnicity. Teams should ensure use of de-escalation strategies & medications prior to restraint for all patients.

De-escalation Tips for Pediatric Agitation

Behavior De-escalation Techniques

- Respect personal space
- Listen to patient & caregiver
- Keep neutral tone & body language
- Establish concise verbal contact
- Identify wants/feelings
- Avoid provocative actions & words
- Offer choices & optimism
- Reward cooperation

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https://media.emscimprovement.center/documents/EMS220824_AgitationMedChart_220830.pdf

MEDICATION DOSING RECOMMENDATIONS | AGITATION

The agitation medication dosing recommendation table accompanies the Care of the Agitated Patient Algorithm, a clinical tool to guide decision-making when caring for agitated pediatric patients in emergency settings

Drug	Route	Dose	PRN Interval	Onset	Considerations
Medications for MILD/MODERATE Agitation					
In individuals who are not able to behaviorally de-escalate, medication may be more effective and should be considered early to prevent agitation escalation.					
Diphenhydramine	PO/IM	1 mg/kg/dose MAX single dose: 50 mg	Every 6-8 hours	PO: 30-60 min IM: 5-30 min	**Contraindications:** AVOID in delirium and intoxication, or history of paradoxical reaction **Side effects:** QTc prolongation, disinhibition
Lorezepam	PO/SL/IM/IV	0.05-0.1 mg/kg/dose MAX single dose: 2 mg	Every 4-6 hours	PO: 30-60 min IM: 15-30 min IV: 5-15 min	**Contraindications:** AVOID in delirium, autism spectrum disorder, history of paradoxical reaction, or AVOID within 1 hour IM olanzapine **Side effects:** respiratory depression if administered with an antipsychotic, disinhibition, delirium
Clonidine	PO	0.05 mg-0.1 mg MAX total dose: 0.4 mg/day	Every 6-8 hours	PO: 30-60 min	**Contraindications:** hypotension, bradycardia. Caution use with antipsychotics and benzodiazepines **Side effects:** hypotension, bradycardia
Medications for SEVERE Agitation					
Antipsychotics are often required. An enteral route should be offered to the patient, but IM administration is often required.					
Chlorpromazine	PO	0.55 mg/kg/dose	Every 4-6 hours	30-60 min	Usual 1st single dose: 25 mg **Contraindications:** AVOID IV use due to risk of cardiovascular collapse/skin necrosis at injection site **Side effects:** hypotension, QTc prolongation
	IM	0.28-0.55 mg/kg/dose		15-30 min	
Haloperidol	PO/IM	0.025-0.075 mg/kg/dose	Every 6 hours	PO: 30-60 min IM: 15-30 min	Consider co-administration with a benzodiazepine and diphenhydramine **Contraindications:** history of NMS, severe dystonia, history of QTc prolongation **Side effects:** EPS, decreased seizure threshold, hypotension, QTc prolongation
Quetiapine	PO/IM	<40 kg: 6.25-12.5 mg ≥40 kg: 25-50 mg	Every 12-24 hours	IM: 30 min PO: 30 min	**Side effects:** hypotension, QTc prolongation (less risk than other antipsychotics)
Risperidone	PO/ODT	<20 kg: 0.25-0.5 mg ≥20 kg: 0.5-1 mg	Every 24 hours	30-60 min	**Contraindications:** history of NMS, severe dystonia, history of QTc prolongation **Side effects:** sedation, akathisia (restlessness/agitation), QTc prolongation, hypotension, EPS*
Olanzapine	PO/ODT	<40 kg: 1.25-2 mg ≥40 kg: 2.5-5 mg	Every 24 hours	1-8.5 hours	**Contraindications:** AVOID concurrent use of IM olanzapine and IM/IV benzodiazepines **Side effects:** paradoxical reaction, sedation
	IM	<40 kg: 2.5-5 mg ≥40 kg: 5-10 mg		15-45 min	

Mild: subtle behaviors such as fidgeting, irritability, fixed stare
Moderate: raising voice, yelling, pacing, head-banging, defensive stance
Severe: combative, imminent risk to self or others

EPS: extrapyramidal symptoms
NMS: neuroleptic malignant syndrome
PO: by mouth / **IM:** intramuscular / **IV:** intravenous

Thank you for participating in the simulation.
Please complete the facilitator and participant surveys by clicking on the links or scanning the QR codes below:

Facilitator Survey

Participant Survey

Posted: March 2025

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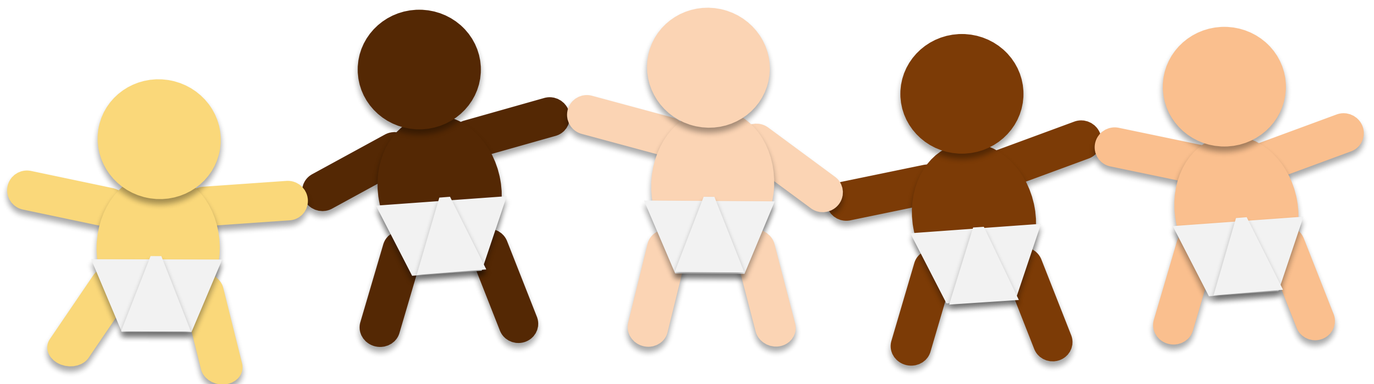

https://emscimprovement.center/education-and-resources/peak/pediatric-agitation/

https://www.apa.org/topics/implicit-bias

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