Clinical Pathways

Agitation

Catherine Sullivan, MD
Cristin McDermott, MD

What is a Clinical Pathway?

An evidence-based guideline that decreases unnecessary variation and helps promote safe, effective, and consistent patient care.

Objectives of Pathway

- Recognize early signs of agitation and work with behavioral de-escalation/environment first
- Standardize the medical management of agitation
- Avoid the overuse of medication to manage agitation
- Reduce the frequency of physical restraints
- Check on our own implicit biases

Background

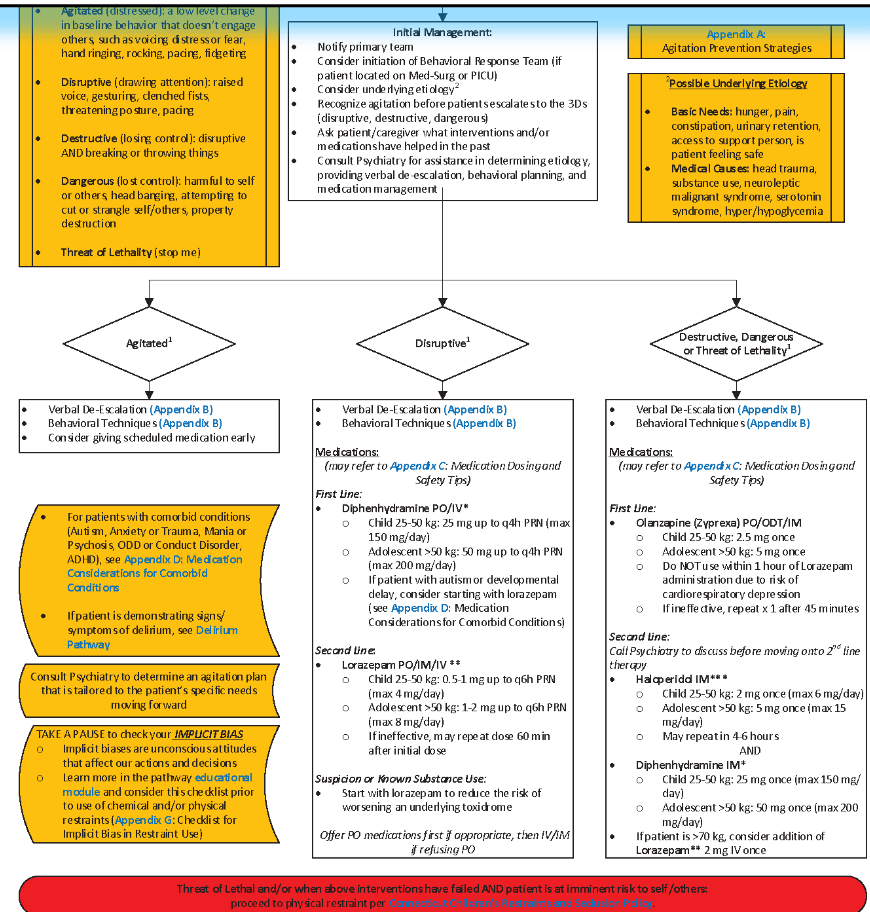
- Acute agitation in the hospital setting is distressing and dangerous for patients, families, and staff
- Can lead to disruption of care, patient or staff injury, need for restraint
- Successful management requires understanding of etiology and implementation of environmental, behavioral, and pharmacological interventions

Inclusion Criteria: Patients ≥ 5 years old experiencing agitation, including those admitted for mental health concerns and those with Autism Spectrum Disorder
Exclusion Criteria: Patients < 5 years old and/or < 25 kg, patient already has an agitation plan per Psychiatry team

Note:** in patients presenting with agitation <u>and concern for delirium</u>, please also refer to **Delirium Pathway

<u>Inclusion Criteria</u>

- Children over the age of 5 and 25 kg experiencing agitation, including those with those with mental health concerns and those with developmental differences such as autism.
- Ideally, patients suspected of developing agitation will have a plan in place. This pathway is for patients who do not have a pre-existing plan and are showing signs of acute agitation.
- If there is a concern for Delirium, also refer to the Delirium pathway.



Appendix A: Agitation Prevention Strategies

The Agitation Continuum: *It is easier to engage when someone is calm than when someone is escalated. Proactively identifying triggers and helpful interventions can provide a helpful framework.*

Ask Before it's a Problem:

- For ALL patients at risk for agitation, when obtaining a history, ask:
  - What is your preferred method of communication?
  - What do you enjoy doing?
  - What helps you feel calm?
  - What happens when you feel upset or anxious?
  - What helps you when you feel upset or anxious?
  - What happens when you feel angry?
  - What helps you when you feel angry?
- Consider filling "Getting to Know Me" document (Appendix E) and developing a daily schedule in collaboration with Child Life (Appendix F)
- Document a plan for agitation

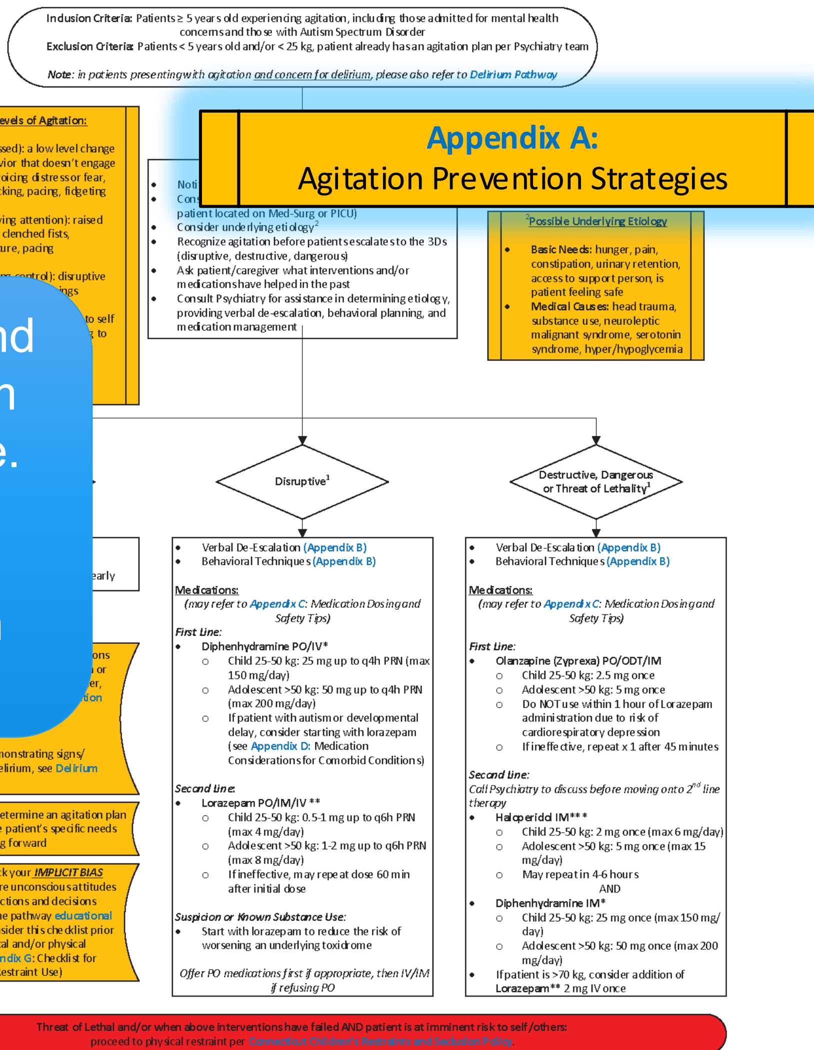
Be Proactive with Communication:

- Engage caregivers early and often
  - What triggers anxiety/agitation/escalation?
  - What signs/symptoms indicate escalation?
  - What prn interventions/prn meds have worked in the past?
- Set clear expectations for the admission
- Discuss exams, procedures, and interventions before they occur
- Offer choice and control when possible
- Strategize with nursing staff and Child Life staff
- Collaborate with Consultation & Liaison (C&L) Psychology/Psychiatry
- Become familiar with Appendix B: Verbal and Behavioral Deescalation Strategies

©2019 Connecticut Children's Medical Center. All rights reserved.

It is important to try and prevent agitation from developing if possible.

Appendix A outlines important prevention strategies.



* Diphenhydramine may cause paradoxical reaction in young children and those with neurodevelopmental differences.
** Higher/frequent doses of benzodiazepines can lead to idiosyncratic reactions, disinhibition +/- delirium.
*** Neuroleptics such as haloperidol carry risk of acute dystonic reaction (ie, acute/sustained muscle contraction). Use simultaneously with diphenhydramine.

©2019 Connecticut Children's Medical Center. All rights reserved.

THIS PATHWAY SERVES AS A GUIDE AND DOES NOT REPLACE CLINICAL JUDGMENT.

GOAL: *Recognize the signs of early agitation before it becomes disruptive and utilize verbal and behavioral de-escalation in an effort to avoid need for chemical and/or physical restraint.*

BEHAVIOR DE-ESCALATION STRATEGIES:	VERBAL DE-ESCALATION STRATEGIES:
Maintain Personal Space • Maintain respectful distance from escalating patient • Position yourself at least 2 arms lengths from patient • Get yourself to safety, back to exit (not to wall), and call for help **Body Language** • Maintain a calm demeanor and posture, and neutral stance • Stand at an angle and keep hands visible **Minimize Stimulation** • Dim lights, reduce noise, minimize clutter • Minimize staff in room (1-2 at a time ideal) **Address Needs** • Consider hunger, thirst, and pain • Are there communication difficulties/limitations that can be easily addressed to assist with expression of needs? **Simple Instructions** • Use soft tone, maintain good eye contact • Give patient 1 step at a time ○ "First this, then this" when giving instructions • Give patient adequate time to process and respond • Repeat instructions **Reward Cooperation and Praise** • Calmly thank the patient for cooperating or taking med • Give verbal praise (for example, "Great job showing me safe hands!") **Consider Sensory Soothing Tools** • Child Life or OT can assist • Distractions	**Establish Verbal Contact** • Introduce yourself by name and role • Ask patient's name/preferred name • One person should take the lead in speaking with patient **Active Listening** • Understand; what is the patient's perception? • Use phrases such as, "Tell me if I have this right…", "What I heard is…" • Consider the use of silence and just listening **Building Empathy** • Validate what the patient is experiencing ○ "I know this can feel overwhelming to be in the hospital" ○ "What you are going through is difficult" **Partner with Patient/Caregivers** • Ask patient/caregiver what helps ○ "I am worried about your safety. What helps you in times like this?" ○ "What has worked in the past?" **Set Clear Expectations and Consequences** • Use a quiet voice • Be clear and consistent ○ "If you are having a hard time staying safe, we will…" **Offer Forced Choices** • Offer two options: "Would you like X or Y?" **Redirection/Distractions** • "What else could we do? "What (Activity) would help?" • "Let's try (activity) together"

CONTACTS: CATHERINE SULLIVAN, MD | CRISTIN MCDERMOTT, MD

LAST UPDATED: 06.30.23

Connecticut Children's

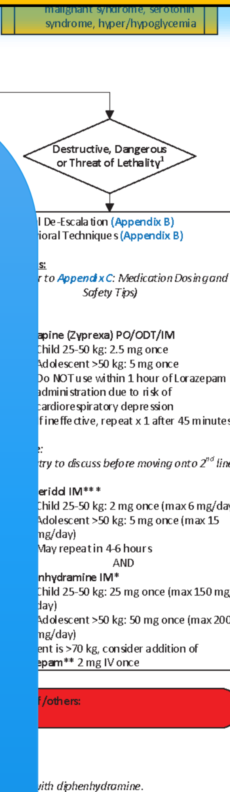
©2019 Connecticut Children's Medical Center. All rights reserved.

Initial Management:

- Notify primary team
- Consider initiation of Behavioral Response Team (if patient located on Med-Surg or PICU)
- Consider underlying etiology[2]
- Recognize agitation before patients escalates to the 3Ds (disruptive, destructive, dangerous)
- Ask patient/caregiver what interventions and/or medications have helped in the past
- Consult Psychiatry for assistance in determining etiology, providing verbal de-escalation, behavioral planning, and medication management

[2]Possible Underlying Etiology

- **Basic Needs:** hunger, pain, constipation, urinary retention, access to support person, is patient feeling safe
- **Medical Causes:** head trauma, substance use, neuroleptic malignant syndrome, serotonin syndrome, hyper/hypoglycemia



Initial Management

The **Goal** is to identify patients when they have low levels of distress before agitation:

1) Explore etiology like hunger, pain, bathroom needs, substance issues, hypoglycemia, etc.

2) Engage in Verbal and Behavioral De-escalation (**Appendix B**)

3) Ask parent/patient what has worked in the past (meds, comfort measures, etc.)

©2019 Connecticut Children's Medical Center. All rights reserved.

Levels of Agitation

There are different levels of agitation, and management will depend on the presenting level.

CLINICAL PATHWAY:

Agitation

THIS PATHWAY SERVES AS A GUIDE AND DOES NOT REPLACE CLINICAL JUDGMENT.

[1]Definitions: Levels of Agitation:

- **Agitated** (distressed): a low level change in baseline behavior that doesn't engage others, such as voicing distress or fear, hand ringing, rocking, pacing, fidgeting
- **Disruptive** (drawing attention): raised voice, gesturing, clenched fists, threatening posture, pacing
- **Destructive** (losing control): disruptive AND breaking or throwing things
- **Dangerous** (lost control): harmful to self or others, head banging, attempting to cut or strangle self/others, property destruction
- **Threat of Lethality** (stop me)

…those admitted for mental health …sorder
…has an agitation plan per Psychiatry team
…se also refer to *Delirium Pathway*

…am (if
…to the 3Ds
…/or
…ng etiology,
…nning, and

Appendix A:
Agitation Prevention Strategies

[2]Possible Underlying Etiology

- Basic Needs: hunger, pain, constipation, urinary retention, access to support person, is patient feeling safe
- Medical Causes: head trauma, substance use, neuroleptic malignant syndrome, serotonin syndrome, hyper/hypoglycemia

Destructive, Dangerous or Threat of Lethality[1]

- Verbal De-Escalation (Appendix B)
- Behavioral Techniques (Appendix B)

Medications:
(may refer to Appendix C: Medication Dosing and Safety Tips)

First Line:
- Olanzapine (Zyprexa) PO/ODT/IM
  - Child 25-50 kg: 2.5 mg once
  - Adolescent >50 kg: 5 mg once
  - Do NOT use within 1 hour of Lorazepam administration due to risk of cardiorespiratory depression
  - If ineffective, repeat x 1 after 45 minutes

Second Line:
Call Psychiatry to discuss before moving onto 2nd line therapy
- Haloperidol IM***
  - Child 25-50 kg: 2 mg once (max 6 mg/day)
  - Adolescent >50 kg: 5 mg once (max 15 mg/day)
  - May repeat in 4-6 hours

AND
- Diphenhydramine IM*
  - Child 25-50 kg: 25 mg once (max 150 mg/day)
  - Adolescent >50 kg: 50 mg once (max 200 mg/day)
- If patient is >70 kg, consider addition of Lorazepam** 2 mg IV once

…g and
…RN (max
…h PRN
…ental
…epam
…itions)

Second Line:
- Lorazepam PO/IM/IV **
  - Child 25-50 kg: 0.5-1 mg up to q6h PRN (max 4 mg/day)
  - Adolescent >50 kg: 1-2 mg up to q6h PRN (max 8 mg/day)
  - If ineffective, may repeat dose 60 min after initial dose

Suspicion or Known Substance Use:
- Start with lorazepam to reduce the risk of worsening an underlying toxidrome

Offer PO medications first if appropriate, then IV/IM if refusing PO

symptoms of delirium, see Delirium Pathway

Consult Psychiatry to determine an agitation plan that is tailored to the patient's specific needs moving forward

TAKE A PAUSE to check your ***IMPLICIT BIAS***
- Implicit biases are unconscious attitudes that affect our actions and decisions
- Learn more in the pathway educational module and consider this checklist prior to use of chemical and/or physical restraints (Appendix G: Checklist for Implicit Bias in Restraint Use)

Threat of Lethal and/or when above interventions have failed AND patient is at imminent risk to self/others: proceed to physical restraint per Connecticut Children's Restraint and Seclusion Policy.

** Diphenhydramine may cause paradoxical reaction in young children and those with neurodevelopmental differences.*
*** Higher/frequent doses of benzodiazepines can lead to idiosyncratic reactions, disinhibition +/- delirium.*
**** Neuroleptics such as haloperidol carry risk of acute dystonic reaction (ie, acute/sustained muscle contraction). Use simultaneously with diphenhydramine.*

NEXT PAGE

CONTACTS: CATHERINE SULLIVAN, MD | CRISTIN MCDERMOTT, MD

LAST UPDATED: 06.30.23

©2019 Connecticut Children's Medical Center. All rights reserved.

GOAL: *Recognize the signs of early agitation before it becomes disruptive and utilize verbal and behavioral de-escalation in an effort to avoid need for chemical and/or physical restraint.*

BEHAVIOR DE-ESCALATION STRATEGIES:

Maintain Personal Space
- Maintain respectful distance from escalating patient
- Position yourself at least 2 arms lengths from patient
- Get yourself to safety, back to exit (not to wall), and call for help

Body Language
- Maintain a calm demeanor and posture, and neutral stance
- Stand at an angle and keep hands visible

Minimize Stimulation
- Dim lights, reduce noise, minimize clutter
- Minimize staff in room (1-2 at a time ideal)

Address Needs
- Consider hunger, thirst, and pain
- Are there communication difficulties/limitations that can be easily addressed to assist with expression of needs?

Simple Instructions
- Use soft tone, maintain good eye contact
- Give patient 1 step at a time
  - "First this, then this" when giving instructions
- Give patient adequate time to process and respond
- Repeat instructions

Reward Cooperation and Praise
- Calmly thank the patient for cooperating or taking med
- Give verbal praise (for example, "Great job showing me safe hands!")

Consider Sensory Soothing Tools
- Child Life or OT can assist
- Distractions

VERBAL DE-ESCALATION STRATEGIES:

Establish Verbal Contact
- Introduce yourself by name and role
- Ask patient's name/preferred name
- One person should take the lead in speaking with patient

Active Listening
- Understand; what is the patient's perception?
- Use phrases such as, "Tell me if I have this right…", "What I heard is…"
- Consider the use of silence and just listening

Building Empathy
- Validate what the patient is experiencing
  - "I know this can feel overwhelming to be in the hospital"
  - "What you are going through is difficult"

Partner with Patient/Caregivers
- Ask patient/caregiver what helps
  - "I am worried about your safety. What helps you in times like this?"
  - "What has worked in the past?"

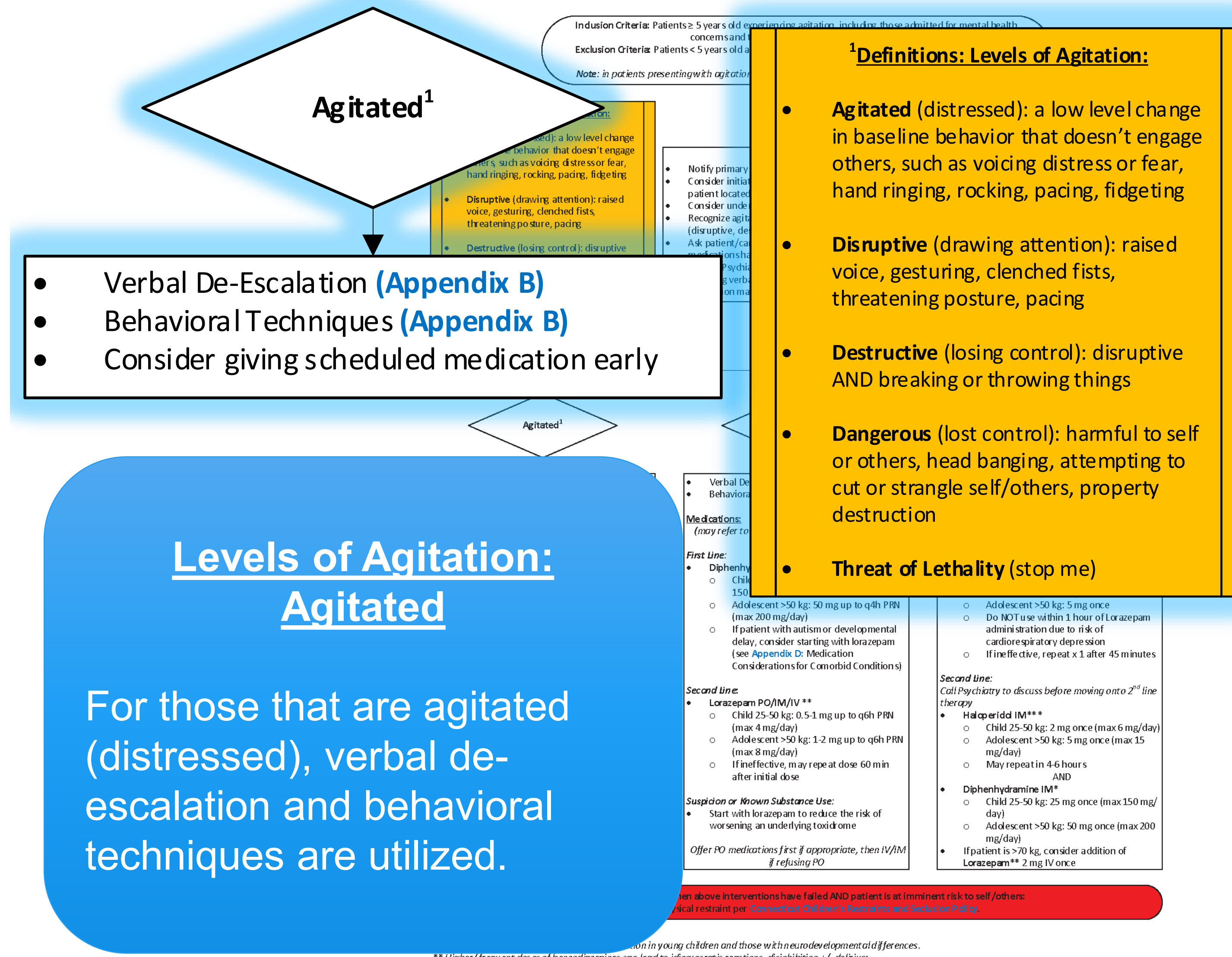
Set Clear Expectations and Consequences
- Use a quiet voice
- Be clear and consistent
  - "If you are having a hard time staying safe, we will…"

Offer Forced Choices
- Offer two options: "Would you like X or Y?"

Redirection/Distractions
- "What else could we do? "What (Activity) would help?"
- "Let's try (activity) together"

RETURN TO THE BEGINNING

©2019 Connecticut Children's Medical Center. All rights reserved.



NEXT PAGE

©2019 Connecticut Children's Medical Center. All rights reserved.

THIS PATHWAY SERVES AS A GUIDE AND DOES NOT REPLACE CLINICAL JUDGMENT.

***GOAL:** Recognize the signs of early agitation before it becomes disruptive and utilize verbal and behavioral de-escalation in an effort to avoid need for chemical and/or physical restraint.*

BEHAVIOR DE-ESCALATION STRATEGIES:

Maintain Personal Space
- Maintain respectful distance from escalating patient
- Position yourself at least 2 arms lengths from patient
- Get yourself to safety, back to exit (not to wall), and call for help

Body Language
- Maintain a calm demeanor and posture, and neutral stance
- Stand at an angle and keep hands visible

Minimize Stimulation
- Dim lights, reduce noise, minimize clutter
- Minimize staff in room (1-2 at a time ideal)

Address Needs
- Consider hunger, thirst, and pain
- Are there communication difficulties/limitations that can be easily addressed to assist with expression of needs?

Simple Instructions
- Use soft tone, maintain good eye contact
- Give patient 1 step at a time
  - "First this, then this" when giving instructions
- Give patient adequate time to process and respond
- Repeat instructions

Reward Cooperation and Praise
- Calmly thank the patient for cooperating or taking med
- Give verbal praise (for example, "Great job showing me safe hands!")

Consider Sensory Soothing Tools
- Child Life or OT can assist
- Distractions

VERBAL DE-ESCALATION STRATEGIES:

Establish Verbal Contact
- Introduce yourself by name and role
- Ask patient's name/preferred name
- <u>One person should take the lead in speaking with patient</u>

Active Listening
- Understand; what is the patient's perception?
- Use phrases such as, "Tell me if I have this right…", "What I heard is…"
- Consider the use of silence and just listening

Building Empathy
- Validate what the patient is experiencing
  - "I know this can feel overwhelming to be in the hospital"
  - "What you are going through is difficult"

Partner with Patient/Caregivers
- Ask patient/caregiver what helps
  - "I am worried about your safety. What helps you in times like this?"
  - "What has worked in the past?"

Set Clear Expectations and Consequences
- Use a quiet voice
- Be clear and consistent
  - "If you are having a hard time staying safe, we will…"

Offer Forced Choices
- Offer two options: "Would you like X or Y?"

Redirection/Distractions
- "What else could we do? "What (Activity) would help?"
- "Let's try (activity) together"

©2019 Connecticut Children's Medical Center. All rights reserved.

THIS PATHWAY SERVES AS A GUIDE AND DOES NOT REPLACE CLINICAL JUDGMENT.

Inclusion Criteria: Patients ≥ 5 years old experiencing agitation, including those admitted for mental health concerns and those with Autism Spectrum Disorder
Exclusion Criteria: Patients < 5 years old and/or < 25 kg, patient already has an agitation plan per Psychiatry team

*Note: in patients presenting with agitation <u>and concern for delirium</u>, please also refer to **Delirium Pathway***

<u>[1]Definitions: Levels of Agitation:</u>
- **Agitated** (distressed): a low level change in baseline behavior that doesn't engage others, such as voicing distress or fear, hand ringing, rocking, pacing, fidgeting
- **Disruptive** (drawing attention): raised voice, gesturing, clenched fists, threatening posture, pacing

Initial Management:
- Notify primary team
- Consider initiation of Behavioral Response Team (if patient located on Med-Surg or PICU)
- Consider underlying etiology[2]
- Recognize agitation before patient escalates to the 3Ds

Appendix A: Agitation Prevention Strategies

<u>[2]Possible Underlying Etiology</u>
- **Basic Needs:** hunger, pain, …nstipation, urinary retention, …s to support person, is …feeling safe
- …**auses:** head trauma, …use, neuroleptic …syndrome, serotonin …hyper/hypoglycemia

<u>If Escalating and at Risk for Distress or Disruption</u>

Continue working with De-escalation Techniques (dim lights, calm voices, give choices, etc)

…ve, Dangerous …t of Lethality[1]

…on (Appendix B)
…ques (Appendix B)

…x C: *Medication Dosing and …ety Tips)*

…xa) PO/ODT/IM
…g: 2.5 mg once
…50 kg: 5 mg once
…within 1 hour of Lorazepam …on due to risk of …ratory depression
…ve, repeat x 1 after 45 minutes

Consult Psychiatry to determine an agitation plan that is tailored to the patient's specific needs moving forward

TAKE A PAUSE to check your ***<u>IMPLICIT BIAS</u>***
- Implicit biases are unconscious attitudes that affect our actions and decisions
- Learn more in the pathway educational module and consider this checklist prior to use of chemical and/or physical restraints (Appendix G: Checklist for Implicit Bias in Restraint Use)

Second Line:
- Lorazepam PO/IM/IV **
  - Child 25-50 kg: 0.5-1 mg up to q6h PRN (max 4 mg/day)
  - Adolescent >50 kg: 1-2 mg up to q6h PRN (max 8 mg/day)
  - If ineffective, may repeat dose 60 min after initial dose

Suspicion or Known Substance Use:
- Start with lorazepam to reduce the risk of worsening an underlying toxidrome

Offer PO medications first if appropriate, then IV/IM if refusing PO

Call Psychiatry to discuss before moving onto 2nd line therapy
- **Haloperidol IM*****
  - Child 25-50 kg: 2 mg once (max 6 mg/day)
  - Adolescent >50 kg: 5 mg once (max 15 mg/day)
  - May repeat in 4-6 hours

  AND
- **Diphenhydramine IM***
  - Child 25-50 kg: 25 mg once (max 150 mg/day)
  - Adolescent >50 kg: 50 mg once (max 200 mg/day)
- If patient is >70 kg, consider addition of **Lorazepam**** 2 mg IV once

Threat of Lethal and/or when above interventions have failed AND patient is at imminent risk to self/others:
proceed to physical restraint per …

** Diphenhydramine may cause paradoxical reaction in young children and those with neurodevelopmental differences.*
*** Higher/frequent doses of benzodiazepines can lead to idiosyncratic reactions, disinhibition +/- delirium.*
**** Neurolpetics such as haloperidol carry risk of acute dystonic reaction (ie, acute/sustained muscle contraction). Use simultaneously with diphenhydramine.*

©2019 Connecticut Children's Medical Center. All rights reserved.

CLINICAL PATHWAY:
Agitation
Appendix C: Medication Dosing and Safety Tips

THIS PATHWAY SERVES AS A GUIDE AND DOES NOT REPLACE CLINICAL JUDGMENT.

Medication†	Dose	Max Daily Dose	Onset of Action	Relative Contraindications	Comments	Side Effects
Diphenhydramine [Benadryl] (antihistaminic)	Child 25-50 kg: 25 mg PO/IM	100 mg	~1-2 hours May repeat one dose in 4 hours.	Prior paradoxical response, developmental delay or current anticholinergic/TCA medication	May cause paradoxical reaction in children with neurodevelopmental differences (e.g. autism) and may worsen delirium	Sedation
	Adolescent >50 kg: 50 mg PO/IM	200 mg				
Lorazepam [Ativan] (benzodiazepine)	Child 25-50 kg: 0.5-1 mg PO/IM/IV	4 mg	IV: ~15-20 min PO: ~30 min May repeat one dose in 60min.	Disinhibition, respiratory instability	Higher/frequent doses of benzodiazepines can lead to idiosyncratic reactions including disinhibition +/- delirium	Respiratory depression, disinhibition
	Adolescent >50 kg: 1-2 mg PO/IM/IV	8 mg				
Clonidine [Catapres] (alpha 2 agonist)	0.05 mg-0.1 mg PO	3 doses	30-60 min May repeat one dose in 6 hours.	Hypotension, bradycardia	Consider in patients that undergoing opioid withd Avoid giving with benzo atypical antipsychotics hypotension	
Olanzapine [Zyprexa] (antipsychotic)	Child 25-50 kg: 2.5 mg PO/ODT or IM	10 mg*	~15 min May repeat one dose in 60 min.	**QTc >500 use with caution,** anticholinergic intoxication, active seizure disorder	Do NOT use within 1 h benzodiazepine (e.g. lo administration due to cardiorespiratory depr	
	Adolescent >50 kg: 5 mg PO/ODT or IM	20 mg*				
Risperidone [Risperdal] (antipsychotic)	Child 25-50 kg: 0.25 mg-0.5 mg PO	1-2 mg*	60 min May repeat one dose in 6 hours.	**QTc >500 use with caution**		
	Adolescent >50 kg: 0.5-1 mg PO	2-3 mg*				
Quetiapine [Seroquel] (antipsychotic)	0.5 mg/kg/dose PO	1.5 mg/kg/day or 150 mg* (max 25-50 mg/dose)	30-60 min May repeat one dose in 6 hours.	**QTc >500 use with caution**		
Haloperidol [Haldol] (antipsychotic)	Child 25-50 kg: 1-2 mg IM	3 -6 mg* or 3 doses	15 min May repeat one dose in 6 hours	**QTc >500 use with caution** anticholinergic intoxication, active seizure disorder, withdrawal syndrome	Do NOT use IV. Admini with diphenhydramine If patient >70 kg, with consider addition of lo	
	Adolescent >50 kg: 2.5-5 mg IM	7.5-15 mg* or 3 doses				

** Consider previous medications (including home medications) that have yielded positive or negative response. If on a prescribed anti-psychotic, con extra dose. Review current or recent medications for drug interactions. If inadequate response from multiple doses, consider an additional medica antipsychotic exposure history as patient may tolerate higher doses.*

If Escalating and at Risk for Distress or Disruption

- Consider Medications (See Dosing and Safety Tips- **Appendix C)**
- Please Look at **Co-Morbid Conditions (like anxiety, ADHD, Substance Use)** to help choose right med for right situation (**Appendix D)**

CONTACTS: CATHERINE SULLIVAN, MD | CRISTIN MCDERMOTT, MD

LAST UPDATED: 06.30.23

©2019 Connecticut Children's Medical Center. All rights reserved.

CLINICAL PATHWAY:
Agitation
Appendix D: Medication Considerations for Comorbid Mental Health Conditions

THIS PATHWAY SERVES AS A GUIDE AND DOES NOT REPLACE CLINICAL JUDGMENT.

AUTISM/ DEVELOPMENTAL DISABILITIES	ANXIETY/TRAUMA	MANIA/PSYCHOSIS	ODD/CONDUCT DISORDER	ADHD	SUBSTANCE USE

• **Assess for underlying cause of agitation** (Am I hungry? In pain? Physical or emotional trigger?)
 	
Medications
• **Diphenhydramine** may cause disinhibition.
• **Lorazepam** could
	Medications
	• PO hydroxyzine (Vistaril, Atarax)
	• PO **Lorazepam** is also helpful anxiolytic
		Medications
		• Consider extra dose of home medication
		
		• *First Line*
		  o ODT **Olanzapine** (Zyprexa) *OR*
		  o PO **Lorazepam**
		• *Second Line*
		  o IM **Haloperidol** combined with IM **Diphenhydramine**
			Medications
			• *First Line*
			  o PO **Lorazepam** *OR*
			  o ODT **Olanzapine** (Zyprexa)
			
			• *Second Line*
			  o IM **Lorazepam** *OR*
			  o IM **Olanzapine** (Zyprexa)
				Medications
				• *First Line*
				  o PO **Clonidine** *OR*
				  o PO **Lorazepam**
				• *Second Line*
				  o IM **Lorazepam** *OR*
				  o IM **Diphenhydramine**
					Medications
					• *ETOH or Benzodiazepine Intoxication:*
					  o **Haloperidol** with IM **Diphenhydramine**
					
					• *PCP or Stimulant intoxication:*
					  o **Lorazepam** +/- **Haloperidol** with **Diphenhydramine**
					
					• *Synthetic Cannabinoids or Cathinones (bath salts):*
					  o **Lorazepam** +/- **Haloperidol** with **Diphenhydramine**

RETURN TO THE BEGINNING

CONTACTS: CATHERINE SULLIVAN, MD | CRISTIN MCDERMOTT, MD

LAST UPDATED: 06.30.23

©2019 Connecticut Children's Medical Center. All rights reserved.

Medication Safety Tips

Appendix C has dosing and route options, as well as safety interactions for medications (e.g., monitoring for prolonged QT, avoiding interactions, etc.)

Medication†	Dose	Max Daily Dose	Onset of Action	Relative Contraindications	Comments	Side Effects
Diphenhydramine [Benadryl] (antihistaminic)	Child 25-50 kg: 25 mg PO/IM Adolescent >50 kg: 50 mg PO/IM	100 mg 200 mg	~1-2 hours May repeat one dose in 4 hours.	Prior paradoxical response, developmental delay or current anticholinergic/TCA medication	May cause paradoxical reaction in children with neurodevelopmental differences (e.g. autism) and may worsen delirium	Sedation
Lorazepam [Ativan] (benzodiazepine)	Child 25-50 kg: 0.5-1 mg PO/IM/IV Adolescent >50 kg: 1-2 mg PO/IM/IV	4 mg 8 mg	IV: ~15-20 min PO: ~30 min May repeat one dose in 60min.	Disinhibition, respiratory instability	Higher/frequent doses of benzodiazepines can lead to idiosyncratic reactions including disinhibition +/- delirium	Respiratory depression, disinhibition
Clonidine [Catapres] (alpha 2 agonist)	0.05 mg-0.1 mg PO	3 doses	30-60 min May repeat one dose in 6 hours.	Hypotension, bradycardia	Consider in patients that may be undergoing opioid withdrawal Avoid giving with benzodiazepines or atypical antipsychotics due to risk of hypotension	Hypotension, bradycardia
Olanzapine [Zyprexa] (antipsychotic)	Child 25-50 kg: 2.5 mg PO/ODT or IM Adolescent >50 kg: 5 mg PO/ODT or IM	10 mg* 20 mg*	~15 min May repeat one dose in 60 min.	**QTc >500 use with caution,** anticholinergic intoxication, active seizure disorder	Do NOT use within 1 hour of IV benzodiazepine (e.g. lorazepam) administration due to risk of cardiorespiratory depression.	**QTc prolongation,** extrapyramidal symptoms including acute dystonic reaction
Risperidone [Risperdal] (antipsychotic)	Child 25-50 kg: 0.25 mg-0.5 mg PO Adolescent >50 kg: 0.5-1 mg PO	1-2 mg* 2-3 mg*	60 min May repeat one dose in 6 hours.	**QTc >500 use with caution**		
Quetiapine [Seroquel] (antipsychotic)	0.5 mg/kg/dose PO	1.5 mg/kg/day or 150 mg* (max 25-50 mg/dose)	30-60 min May repeat one dose in 6 hours.	**QTc >500 use with caution**		
Haloperidol [Haldol] (antipsychotic)	Child 25-50 kg: 1-2 mg IM Adolescent >50 kg: 2.5-5 mg IM	3 -6 mg* or 3 doses 7.5-15 mg* or 3 doses	15 min May repeat one dose in 6 hours	**QTc >500 use with caution** anticholinergic intoxication, active seizure disorder, withdrawal syndrome	Do NOT use IV. Administer concurrently with diphenhydramine If patient >70 kg, with severe agitation consider addition of lorazepam 2 mg IV	

** Consider previous medications (including home medications) that have yielded positive or negative response. If on a prescribed anti-psychotic, consider administering early or giving an extra dose. Review current or recent medications for drug interactions. If inadequate response from multiple doses, consider an additional medication class. Max dose depends on antipsychotic exposure history as patient may tolerate higher doses.*

©2019 Connecticut Children's Medical Center. All rights reserved.

Co-Morbidities

- Check **Appendix D** to guide decision making for those with comorbid mental health conditions, including autism, ADHD and substance use disorder.
- Avoid IM in psych trauma when possible

AUTISM/ DEVELOPMENTAL DISABILITIES	ANXIETY/TRAUMA	MANIA/PSYCHOSIS	ODD/CONDUCT DISORDER	ADHD	SUBSTANCE USE
• **Assess for underlying cause of agitation** (Am I hungry? In pain? Physical or emotional trigger?) **Medications** • **Diphenhydramine** may cause disinhibition. • **Lorazepam** could possibly disinhibit also, but is a safe 1st line medication • Avoid IM if possible for additional sensory assault • Trial an extra dose of home medication, such as **Risperidone** *OR* • ODT **Olanzapine** (Zyprexa) is a good 1st or 2nd line medication. Remember that Olanzapine needs to be separated from Ativan by minimum of 1 hour. **Other Options:** • PO **Clonidine**	**Medications** • PO hydroxyzine (Vistaril, Atarax) • PO **Lorazepam** is also helpful anxiolytic	**Medications** • Consider extra dose of home medication • *First Line* o ODT **Olanzapine** (Zyprexa) *OR* o PO **Lorazepam** • *Second Line* o IM **Haloperidol** combined with IM **Diphenhydramine**	**Medications** • *First Line* o PO **Lorazepam** *OR* o ODT **Olanzapine** (Zyprexa) • *Second Line* o IM **Lorazepam** *OR* o IM **Olanzapine** (Zyprexa)	**Medications** • *First Line* o PO **Clonidine** *OR* o PO **Lorazepam** • *Second Line* o IM **Lorazepam** *OR* o IM **Diphenhydramine**	**Medications** • *ETOH or Benzodiazepine Intoxication:* o **Haloperidol** with IM **Diphenhydramine** • *PCP or Stimulant intoxication:* o **Lorazepam** +/- **Haloperidol** with **Diphenhydramine** • *Synthetic Cannabinoids or Cathinones (bath salts):* o **Lorazepam** +/- **Haloperidol** with **Diphenhydramine**

RETURN TO THE BEGINNING

CONTACTS: CATHERINE SULLIVAN, MD | CRISTIN MCDERMOTT, MD

©2019 Connecticut Children's Medical Center. All rights reserved.

Connecticut Children's

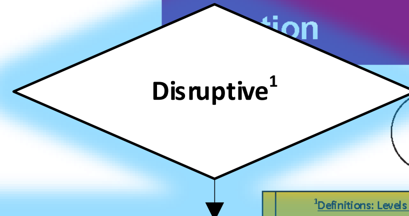
THIS PATHWAY SERVES AS A GUIDE AND DOES NOT REPLACE CLINICAL JUDGMENT.

Levels of Agitation: Disruptive

For those that are disruptive (drawing attention), medications are utilized in addition to verbal de-escalation and behavioral techniques.

First line medications include diphenhydramine.

PO medications should be offered first, if appropriate.



- Verbal De-Escalation (Appendix B)
- Behavioral Techniques (Appendix B)

Medications:

(may refer to Appendix C: Medication Dosing and Safety Tips)

First Line:

- **Diphenhydramine PO/IV***
  - Child 25-50 kg: 25 mg up to q4h PRN (max 150 mg/day)
  - Adolescent >50 kg: 50 mg up to q4h PRN (max 200 mg/day)
  - If patient with autism or developmental delay, consider starting with lorazepam (see Appendix D: Medication Considerations for Comorbid Conditions)

Second Line:

- **Lorazepam PO/IM/IV ****
  - Child 25-50 kg: 0.5-1 mg up to q6h PRN (max 4 mg/day)
  - Adolescent >50 kg: 1-2 mg up to q6h PRN (max 8 mg/day)
  - If ineffective, may repeat dose 60 min after initial dose

Suspicion or Known Substance Use:

- Start with lorazepam to reduce the risk of worsening an underlying toxidrome

Offer PO medications first if appropriate, then IV/IM if refusing PO

[1]Definitions: Levels of Agitation:

- **Agitated** (distressed): a low level change in baseline behavior that doesn't engage others, such as voicing distress or fear, hand ringing, rocking, pacing, fidgeting
- **Disruptive** (drawing attention): raised voice, gesturing, clenched fists, threatening posture, pacing
- **Destructive** (losing control): disruptive AND breaking or throwing things
- **Dangerous** (lost control): harmful to self or others, head banging, attempting to cut or strangle self/others, property destruction
- **Threat of Lethality** (stop me)

** Diphenhydramine may cause paradoxical reaction in young children and those with neurodevelopmental differences.*
*** Higher/ frequent doses of benzodiazepines can lead to idiosyncratic reactions, disinhibition +/- delirium.*
**** Neurolpetics such as haloperidol carry risk of acute dystonic reaction (ie, acute/sustained muscle contraction). Use simultaneously with diphenhydramine.*

NEXT PAGE

KRISTIN MCDERMOTT, MD

LAST UPDATED: 06.30.23

©2019 Connecticut Children's Medical Center. All rights reserved.

Levels of Agitation: Disruptive

Note that diphenhydramine may cause paradoxical reactions in young children and in those with neurodevelopmental differences.

Higher/frequent doses of benzodiazepines can lead to idiosyncratic reactions, disinhibition and/or delirium.

CLINICAL PATHWAY:

THIS PATHWAY SERVES AS A GUIDE AND DOES NOT REPLACE CLINICAL JUDGMENT.

Disruptive[1]

- Verbal De-Escalation (Appendix B)
- Behavioral Techniques (Appendix B)

Medications:

(may refer to Appendix C: Medication Dosing and Safety Tips)

First Line:

- **Diphenhydramine PO/IV***
  - Child 25-50 kg: 25 mg up to q4h PRN (max 150 mg/day)
  - Adolescent >50 kg: 50 mg up to q4h PRN (max 200 mg/day)
  - If patient with autism or developmental delay, consider starting with lorazepam (see Appendix D: Medication Considerations for Comorbid Conditions)

Second Line:

- **Lorazepam PO/IM/IV ****
  - Child 25-50 kg: 0.5-1 mg up to q6h PRN (max 4 mg/day)
  - Adolescent >50 kg: 1-2 mg up to q6h PRN (max 8 mg/day)
  - If ineffective, may repeat dose 60 min after initial dose

Suspicion or Known Substance Use:

- Start with lorazepam to reduce the risk of worsening an underlying toxidrome

Offer PO medications first if appropriate, then IV/IM if refusing PO

[1]Definitions: Levels of Agitation:

- **Agitated** (distressed): a low level change in baseline behavior that doesn't engage others, such as voicing distress or fear, hand ringing, rocking, pacing, fidgeting
- **Disruptive** (drawing attention): raised voice, gesturing, clenched fists, threatening posture, pacing
- **Destructive** (losing control): disruptive AND breaking or throwing things
- **Dangerous** (lost control): harmful to self or others, head banging, attempting to cut or strangle self/others, property destruction
- **Threat of Lethality** (stop me)

Inclusion Criteria: Patients ≥ 5 years old experiencing agitation, including those admitted for mental health

Exclusion Criteria: Patients < 5 y

Note: in patients presenting wit

Second Line:

Call Psychiatry to discuss before moving onto 2nd line therapy

- Haloperidol IM***
  - Child 25-50 kg: 2 mg once (max 6 mg/day)
  - Adolescent >50 kg: 5 mg once (max 15 mg/day)
  - May repeat in 4-6 hours

AND

- Diphenhydramine IM*
  - Child 25-50 kg: 25 mg once (max 150 mg/day)
  - Adolescent >50 kg: 50 mg once (max 200 mg/day)
- If patient is >70 kg, consider addition of Lorazepam** 2 mg IV once

- Adolescent >50 kg: 5 mg once
- Do NOT use within 1 hour of Lorazepam administration due to risk of cardiorespiratory depression
- If ineffective, repeat x 1 after 45 minutes

when above interventions have failed AND patient is at imminent risk to self/others: physical restraint per Connecticut Children's Restraint and Seclusion Policy.

young children and those with neurodevelopmental differences.

idiosyncratic reactions, disinhibition +/- delirium.

dystonic reaction (ie, acute/sustained muscle contraction). Use simultaneously with diphenhydramine.

NEXT PAGE

CONTACTS: CATHERINE SULLIVAN, MD | CRISTIN MCDERMOTT, MD

LAST UPDATED: 06.30.23

Connecticut Children's

©2019 Connecticut Children's Medical Center. All rights reserved.

Levels of Agitation: Destructive, Dangerous or Threat of Lethality

If the patient has escalated to become destructive, dangerous, or is a threat of lethality, medication options differ. These include olanzapine as first line.

Verbal de-escalation and behavioral techniques should continue to be utilized.

CLINICAL PATHWAY:
Agitation

THIS PATHWAY SERVES AS A GUIDE AND DOES NOT REPLACE CLINICAL JUDGMENT.

Destructive, Dangerous or Threat of Lethality[1]

- Verbal De-Escalation (Appendix B)
- Behavioral Techniques (Appendix B)

Medications:
(may refer to Appendix C: Medication Dosing and Safety Tips)

First Line:
- **Olanzapine (Zyprexa) PO/ODT/IM**
  - Child 25-50 kg: 2.5 mg once
  - Adolescent >50 kg: 5 mg once
  - Do NOT use within 1 hour of Lorazepam administration due to risk of cardiorespiratory depression
  - If ineffective, repeat x 1 after 45 minutes

Second Line:
Call Psychiatry to discuss before moving onto 2nd line therapy
- **Haloperidol IM*****
  - Child 25-50 kg: 2 mg once (max 6 mg/day)
  - Adolescent >50 kg: 5 mg once (max 15 mg/day)
  - May repeat in 4-6 hours

AND
- **Diphenhydramine IM***
  - Child 25-50 kg: 25 mg once (max 150 mg/day)
  - Adolescent >50 kg: 50 mg once (max 200 mg/day)
- If patient is >70 kg, consider addition of **Lorazepam**** 2 mg IV once

[1]Definitions: Levels of Agitation:

- **Agitated** (distressed): a low level change in baseline behavior that doesn't engage others, such as voicing distress or fear, hand ringing, rocking, pacing, fidgeting
- **Disruptive** (drawing attention): raised voice, gesturing, clenched fists, threatening posture, pacing
- **Destructive** (losing control): disruptive AND breaking or throwing things
- **Dangerous** (lost control): harmful to self or others, head banging, attempting to cut or strangle self/others, property destruction
- **Threat of Lethality** (stop me)

NEXT PAGE

MCDERMOTT, MD

LAST UPDATED: 06.30.23

©2019 Connecticut Children's Medical Center. All rights reserved.

Connecticut Children's

Levels of Agitation: Destructive, Dangerous or Threat of Lethality

Neuroepileptics, such as haloperidol, carry a risk of acute dystonic reactions (i.e., acute/sustained muscle contractions).

Use it simultaneously with diphenhydramine.

THIS PATHWAY SERVES AS A GUIDE AND DOES NOT REPLACE CLINICAL JUDGMENT.

Destructive, Dangerous or Threat of Lethality[1]

- Verbal De-Escalation **(Appendix B)**
- Behavioral Techniques **(Appendix B)**

Medications:

*(may refer to **Appendix C**: Medication Dosing and Safety Tips)*

First Line:

- **Olanzapine (Zyprexa) PO/ODT/IM**
  - Child 25-50 kg: 2.5 mg once
  - Adolescent >50 kg: 5 mg once
  - Do NOT use within 1 hour of Lorazepam administration due to risk of cardiorespiratory depression
  - If ineffective, repeat x 1 after 45 minutes

Second Line:

Call Psychiatry to discuss before moving onto 2nd line therapy

- **Haloperidol IM*****
  - Child 25-50 kg: 2 mg once (max 6 mg/day)
  - Adolescent >50 kg: 5 mg once (max 15 mg/day)
  - May repeat in 4-6 hours

AND

- **Diphenhydramine IM***
  - Child 25-50 kg: 25 mg once (max 150 mg/day)
  - Adolescent >50 kg: 50 mg once (max 200 mg/day)
- If patient is >70 kg, consider addition of **Lorazepam**** 2 mg IV once

[1]**Definitions: Levels of Agitation:**

- **Agitated** (distressed): a low level change in baseline behavior that doesn't engage others, such as voicing distress or fear, hand ringing, rocking, pacing, fidgeting
- **Disruptive** (drawing attention): raised voice, gesturing, clenched fists, threatening posture, pacing
- **Destructive** (losing control): disruptive AND breaking or throwing things
- **Dangerous** (lost control): harmful to self or others, head banging, attempting to cut or strangle self/others, property destruction
- **Threat of Lethality** (stop me)

NEXT PAGE

MCDERMOTT, MD

LAST UPDATED: 06.30.23

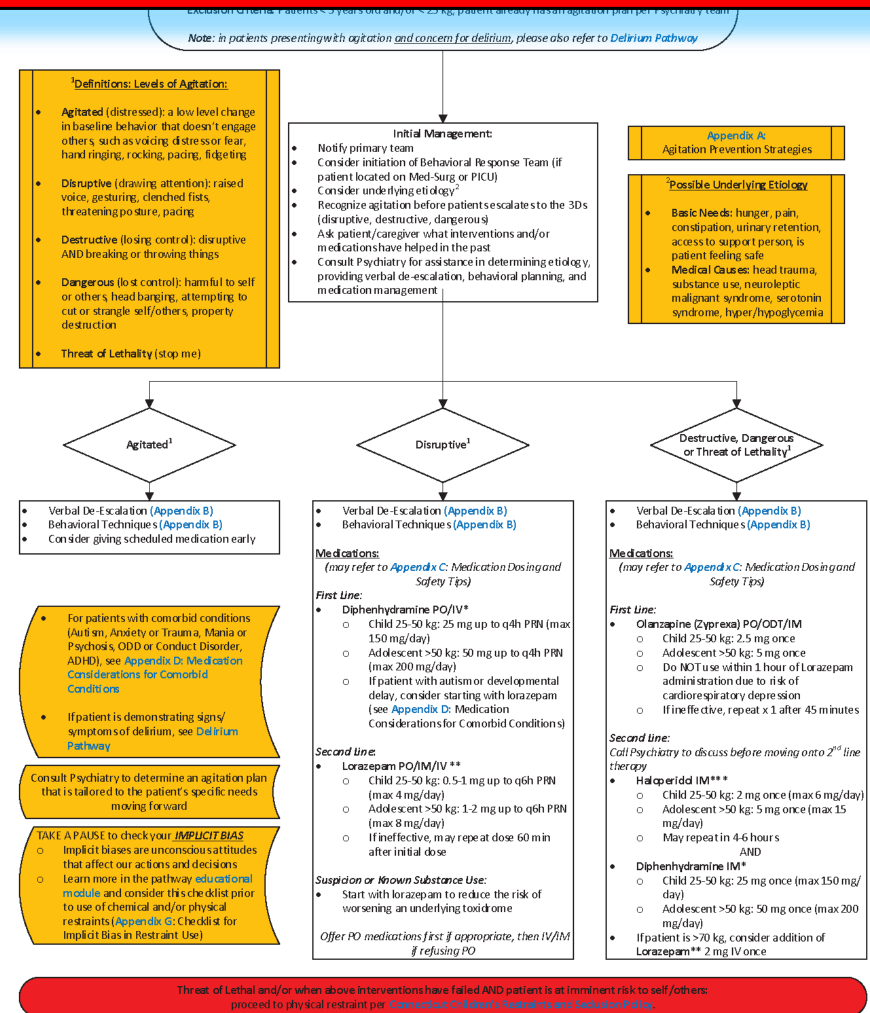
©2019 Connecticut Children's Medical Center. All rights reserved.

Connecticut Children's

Threat of Lethal and/or when above interventions have failed AND patient is at imminent risk to self/others:
proceed to physical restraint per Connecticut Children's Restraints and Seclusion Policy.

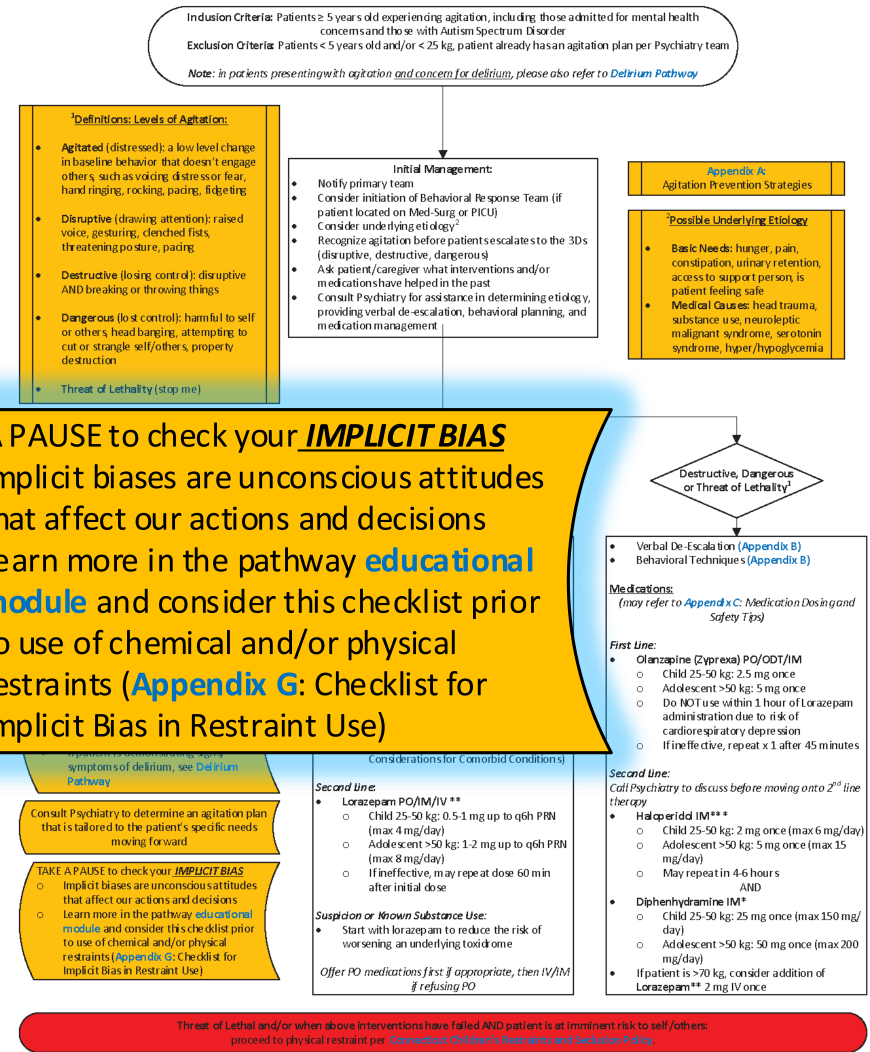
Restraint Use

- Restraints should **only** be used if there is threat of lethality, and/or when above measures (such as de-escalation) have failed **and** there is an imminent risk to self and others



Implicit Bias

- Literature shows that patients of color are more likely to be restrained
- Unconscious attitudes affect actions
- Clinical presentations of an agitated patient can cause stress in staff. This can lead to mental shortcuts and higher likelihood of treating certain patients differently.
- Awareness of your implicit biases can help mitigate this



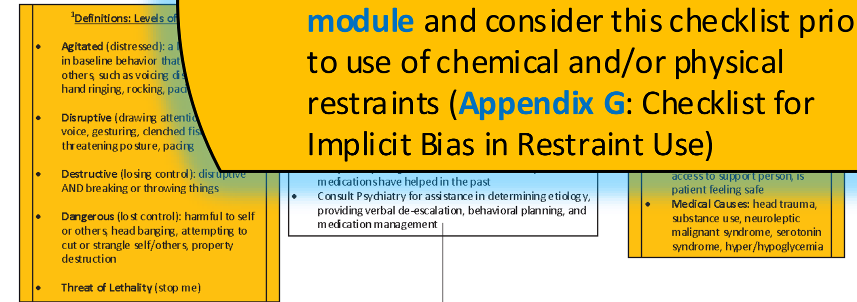
Checklist for Implicit Bias in Restraint Use:

Check your implicit biases prior to ordering chemical and/or physical restraint

1. Have I tried to listen to the patient's desires, employ verbal de-escalation, and other alternatives to chemical/physical restraints (such as offering food/drink)?
2. Is a different staff member, outside of myself or the patient's primary care team, better at de-escalating this patient based on demographic similarities (or differences, such as agitated male patient who responds better to female staff)?
3. Is my fear of this patient exaggerated by their appearance?
4. Are there cultural differences in the patient's expression of frustration and control?
5. Am I using racial, gender, socioeconomic, or other potentially harmful bias in determining my agitation care plan for this patient?

Jin RO, Anaebere TC, Haar RJ. Exploring bias in restraint use: Four strategies to mitigate bias in care of the agitated patient in the emergency department. *Acad Emerg Med.* 2021 Sep;28(9):1061-1066.

©2019 Connecticut Children's Medical Center. All rights reserved.



Check Your Bias!

- Try to avoid inequities in care!
- Appendix G is a 6 point self-assessment/checklist that will help assess your implicit bias. This should be done **prior** to ordering chemical and/or physical restraints!

Threat of Lethal and/or when above interventions have failed AND patient is at imminent risk to self/others: proceed to physical restraint per Connecticut Children's Restraints and Seclusion Policy.

* *Diphenhydramine may cause paradoxical reaction in young children and those with neurodevelopmental differences.*
** *Higher/frequent doses of benzodiazepines can lead to idiosyncratic reactions, disinhibition +/- delirium.*
*** *Neurolpetics such as haloperidol carry risk of acute dystonic reaction (ie, acute/sustained muscle contraction). Use simultaneously with diphenhydramine.*

©2019 Connecticut Children's Medical Center. All rights reserved.

Appendices Outline

In addition to the reviewed appendices, Appendix E and F helps document individualized plans for patients.

- A – Agitation Prevention Strategies
- B – Verbal and Behavioral De-escalation Strategies
- C – Medication Dosing and Safety Tips
- D – Medication Considerations for Comorbid Mental Health Conditions
- E – Getting to Know Me
- F – Daily Schedule
- G – Checklist for Implicit Bias in Restraint Use

When Settled: Consult Team Partners

- Psychiatry: for ongoing agitation management plans
- Child Life: for assistance with Sensory/Behavioral Plans
- Add Functional Plans when patient is feeling safe to allow for natural de-escalation (schedule, sleep, walks)
    - See functional order set
- Continue to assess for causes and address individual needs as best as we can

Review of Key Points

- Recognize early signs of agitation (before patients become disruptive) and intervene with verbal and behavioral de-escalation
- Remember to utilize environmental interventions
- Trial PO meds first when the patient is in the disruptive state to avoid escalation into the destructive and dangerous states
- Get to know psych Co-Morbidities and see special medication considerations
- Remember to check your bias before chemical and/or physical restraint use

Quality Metrics

- % Patients with pathway order set
- % Patients who get at least one dose IM/IV medications per pathway
- % Patients who have greater than 2 doses IM/IV medications per pathway within 48 hours
- % Patients who have a restraint episode during their stay
- % Patients who have >= 2 restraint episodes during their stay
- ALOS (IP, Days, ED, Minutes)

Pathway Contacts

- Catherine Sullivan, MD
  - Pediatric Hospital Medicine
- Cristin McDermott, MD
  - Psychiatry

References

- Adimando AJ, Poncin YB, Baum CR. Pharmacological management of the agitated pediatric patient. *Pediatr Emerg Care.* 2010 Nov;26(11):856-860.
- Chun TH, Mace SE, Katz ER, AAP, ACEP. Evaluation and Management of Children and Adolescents With Acute Mental Health or Behavioral Problems. Part I: Common Clinical Challenges of Patients With Mental Health and/or Behavioral Emergencies. *Pediatrics.* 2016 Sep;138(3):e20161570.
- Chun TH, Mace SE, Katz ER, AAP, ACEP. Evaluation and Management of Children and Adolescents With Acute Mental Health or Behavioral Problems. Part II: Recognition of Clinically Challenging Mental Health Related Conditions Presenting With Medical or Uncertain Symptoms. *Pediatrics.* 2016 Sep;138(3):e20161574.
- Gerson R, Malas N, Feuer V, Silver GH, Prasad R, Mroczkowski MM. Best Practices for Evaluation and Treatment of Agitated Children and Adolescents (BETA) in the Emergency Department: Consensus Statement of the American Association for Emergency Psychiatry. West J Emerg Med. 2019 Mar; 20(2): 409–418.
- Gerson R, Malas N, Mroczkowski MM. Crisis in the Emergency Department: The Evaluation and Management of Acute Agitation in Children and Adolescents. *Child Adolesc Psychiatr Clin N Am.* 2018 Jul;27(3):367-386
- Hilt RJ, Woodward TA. Agitation treatment for pediatric emergency patients. *J Am Acad Child Adolesc Psychiatry.* 2008 Feb;47(2):132-138.
- Pappadopulos E, Macintyre Li JC, Crismon ML, et al. Treatment recommendations for the use of antipsychotics for aggressive youth (TRAAY). Part II. *J Am Acad Child Adolesc Psychiatry.* 2003 Feb;42(2):145-161.
- Malas N, Spital L, Fischer J, Kawai Y, Cruz D, Keefer P. National Survey on Pediatric Acute Agitation and Behavioral Escalation in Academic Inpatient Pediatric Care Settings. *Psychosomatics.* 2017May-Jun;58(3):299-306.
- Sonnier L, Barzman D. Pharmacologic management of acutely agitated pediatric patients. *Paediatr Drugs.* 2011 Feb;13(1):1-10.
- Nash, K, et al, Racial and Ethnic Disparities in Physical Restraint Use for Pediatric Patietns in the Emergency Department, JAMA Pediatrics, December, 2021, Volume 175; 12.
- Wong,AH, et al, Assiciation of race/ethnicity and other demographic characteristics with use of physical restrainsts in the emergency department. JAMA Netw Opn. 2021; 4(1)
- Nunno, MA et al, Learning from tragedy: a survey of child and adolescent restraint fatalities. Child Abuse Negl. 2006, 30(12) 1333-1342.

Thank You!

About Connecticut Children's Pathways Program

Clinical pathways guide the management of patients to optimize consistent use of evidence-based practice. Clinical pathways have been shown to improve guideline adherence and quality outcomes, while decreasing length of stay and cost. Here at Connecticut Children's, our Clinical Pathways Program aims to deliver evidence-based, high value care to the greatest number of children in a diversity of patient settings. These pathways serve as a guide for providers and do not replace clinical judgment.