Management Based on Source of Behavioral Escalation

Children's Mercy KANSAS CITY | Evidence Based Practice

Substance Intoxication or Withdrawal

- History and physical exam
- Urine toxicology

- **Unknown substance(s)**
  - Lorazepam (PO/IM/IV), consider adding haloperidol if severely agitated or hallucinating
- **PCP intoxication**
  - Lorazepam (PO/IM/IV/NGT)
- **Alcohol/BZD withdrawal or stimulant intoxication**
  - Lorazepam (PO/IM/IV/NGT), add haloperidol if severely agitated or hallucinating
- **Alcohol/BZD intoxication**
  - Haloperidol (IM/PO) or chlorpromazine (PO/IM)
- **Opiate withdrawal**
  - Clonidine and/or opiate replacement (methadone, suboxone) per hosptial protocol
  - Add symptomatic meds (ibuprofen, maalox, loperamide, ondansetron, dicyclomine) as needed
  - **Nicotine withdrawal** (link to pathway)
- **Urine toxicology negative**
  - Suspect synthetic cannabinoids or cathinones
  - Lorazepam +/- haloperidol (PO/IM/IV) or chlorpromazine (PO/IM)

Delirium

Defined by:
Acute onset/fluctuating course
plus
Inattention
plus
Disorganized thinking or altered level of consciousness

- Address underlying medical etiology
- Assess pain
- Avoid benzodiazepines and anticholinergics which may worsen delirium

Medications for patients still severely agitated
- PO: quetiapine or risperidone or clonidine
- IM: olanzapine or chlorpromazine *
- IM: haloperidol ^

OR
- Lorazepam (PO/IM/IV/NGT) if there are seizure concerns or catatonia

If providing second or third dose, discuss strategies with Pharmacy and/or Psychiatry

Developmental Delay or Autism

- Note: Pts with ASD/DD are at higher risk for delirium and medical or psych symptoms

- Attempt behavioral interventions
- Assess pain, hunger, other physical needs
- Consider using visual communication tools
- Utilize sensory tools
- Ask what usually soothes child
- Ask about prior medication responses (positive or negative), especially to benzodiazepines and diphenhydramine

Medications for patients still severely agitated:
- Consider extra dose of pt's regular standing medication
- Avoid benzodiazepines due to risk for disinhibition *
- PO route preferred
- Clonidine (PO) or diphenhydramine (PO/IM) or antipsychotic (risperidone PO, chlorpromazine PO/IM or olanzapine ODT/IM)

Psychiatric Diagnosis

- History to clarify diagnosis and reason for agitation
- Use behavioral deescalation strategies

- **Agitated catatonia**
  - Lorazepam (PO/IM/IV/NGT)
- **Anxiety, trauma, or PTSD**
  - Lorazepam (PO/IM/IV) or
  - Clonidine (PO) (if <12 yo or concern for disinhibition)
- **ADHD**
  - Clonidine (PO) or diphenhydramine (PO/IM) or
  - Risperidone (PO) "if concern for hypotension"
- **Oppositional Defiant Disorder or Conduct Disorder**
  - Chlorpromazine or lorazepam (PO/IM) or olanzapine (ODT/IM) or risperidone (PO) *
- **Mania or psychosis (extremely rare under 12)**
  - PO: Risperidone or quetiapine
  - IM: Chlorpromazine or haloperdiol +/- lorazepam (add diphenhydramine for extrapyramidal symptoms) or olanzapine *
  - If on standing antipsychotic, give extra dose

Unknown Etiology for Agitation

- History and physical exam
- Use behavioral deescalation strategies
- Continually reevaluate for other cause of agitation

- **Mild agitation (e.g., verbal aggression)**
  - Utilize behavioral and environmental strategies to deescalate
- **Moderate agitation (e.g., aggression against objects or property destruction)**
  - Diphenhydramine (PO) or lorazepam (PO) or olanzapine (ODT) *
- **Severe agitation (e.g., aggression to self or other)**
  - Chlorpromazine (PO/IM) or haloperidol + lorazepam (PO/IM) or olanzapine (ODT/IM) ± diphenhydramine (PO/IM)

***Do not give olanzapine and benzodiazepines within one hour of each other** (due to risk of respiratory suppression)

^Haloperidol IV route should be avoided due to the risk of arrythmias or sudden cardiac arrest

Medication	Dose / Re-administration	Onset	Max Daily Dose (MDD)‡ All routes	Peak Effect	Redosing Frequency$^{\Delta}$	Notes/monitoring
Diphenhydramine (antihistamine)	PO/IV/IM: 12.5 - 50mg (1 mg/kg/dose)	PO: 15 - 60 min IV/IM: 15 min	Child: 50 - 100 mg Adolescent: 100 - 200 mg	PO: 2 hours	Q 4 - 6 hours	Avoid in delirium. Can cause disinhibition or delirium in younger or DD youth. May cause QT prolongation.
Lorazepam (benzodiazepine)	PO/IV/IM/NGT: 0.5 mg - 2 mg (0.05 - 0.1 mg/kg/dose)	PO 20 - 30 min IV 2 - 5 min IM 15 - 30 min	Child: 4 mg Adolescent: 6 - 8 mg Depending on weight/prior medication exposure#	IV: 10 minutes PO/IM: 1 - 2 hours	Q 1 - 2 hours	Can cause disinhibition or delirium in younger or DD youth. Can be given with haloperidol, chlorpromazine or risperidone. Do not give with olanzapine (especially IM due to risk of respiratory suppression).
Clonidine (alpha-2 agonist)	PO: 0.05 mg - 0.1 mg	No reliable data	27 - 40.5 kg: 0.2 mg/day 40.5 - 45 kg: 0.3 mg/day >45 kg: 0.4 mg/day	PO: 30-60 minutes	Q 8 hours	Monitor for hypotension and bradycardia. Avoid giving with BZD or atypical antipsychotic due to hypotension risk.
Chlorpromazine (antipsychotic)	PO: 12.5 - 50 mg (0.55 mg/kg/dose) IM: 0.28mg/kg (max 25mg)	30 - 60 min	Child <5 years: 40mg/day Child ≥5 years: 75mg/day IM Route	PO: 30-60 minutes IM: 15 minutes	Q 4 hours	Monitor for hypotension. Monitor for QT prolongation.
Haloperidol^ (antipsychotic)	PO/IM: 0.5 mg - 5 mg (0.55 mg/kg/dose)	30 - 60 min	15-40 kg: 6mg >40 kg: 15 mg Depending on prior antipsychotic exposure	PO: 2 hours IM: 20 minutes	Q 4 hours	Monitor for hypotension. Consider EKG or cardiac monitoring for QT prolongation, especially for IV administration. Note: Risk of extrapyramidal side effects (EPS) with MDD >3mg/day, with IV dosing having very high EPS risk. Consider pairing with diphenhydramine to reduce risk of EPS (if not concerned for QT prolongation)
Olanzapine (atypical antipsychotic)	ODT or IM: 2.5 - 10 mg	15 min	10 - 20 mg Depending on antipsychotic exposure	ODT: 5 hours (range 1-8 hours) IM: 15-45 minutes	Q 2 hours	Do not give with or within 1 hour of any BZD given risk for respiratory suppression.
Risperidone (atypical antipsychotic)	ODT: 0.25 - 1mg (0.005-0.01mg/kg/dose)	60 - 70 min	Child: 1 - 2 mg Adolescent: 2 - 3 mg Depending on antipsychotic exposure	ODT: 1 hour	Q 0.5 - 2 hours	Can cause akathisia (restlessness/agitation) in higher doses.
Quetiapine (atypical antipsychotic)	PO: 25 - 50 mg (1-1.5 mg/kg/dose or divided)	No reliable data	>10 years: 600 mg Depending on prior antipsychotic exposure	PO: 30 minutes-2 hours	Q 12 hours	More sedating at lower doses. Monitor for hypotension.

‡ Higher daily doses should occur in conjunction with psychiatry recommendation/guidance.
# Higher doses should be lead to a reassessment of current plan / different therapeutic options
^ IV route should be avoided due to the risk of arrythmias or sudden cardiac arrest
$^{\Delta}$ Consult with pharmacy to determine if redosing sooner is needed as initial dose may not have been maximized.

Initially developed by Gerson et al., (2023) and has been reconceptualized by Children's Mercy Kansas City.
Gerson, R., Malas, N., Feuer, V., Silver, G. H., Prasad, R., & Mroczkowski, M. M. (2023). 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. *Focus*, *21*(1), 80-88.

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Link to synopsis and references

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