# Management of Acute Agitation in the Adult Emergency Department

**GENERAL INFORMATION**

- This guideline describes the management of acute agitation in the Adult Emergency Department (ED). Refer to the separate guideline for managing acute agitation in the Pediatric ED. This guideline may be used for pediatric patients seen in the Adult ED, such as trauma patients, when appropriate.
- De-escalation should be attempted prior to medication management and physical restraint
- All attempts to avoid physical restraint should be considered prior to its use, and 2-point physical restraint is preferred to 4-point. If physical restraint is used, please follow current Departmental and UNMH guidelines AND try to minimize the time in physical restraint.
- Use preferred agents as listed below. Preferred agents show better clinical properties including quicker onset of action, greater effectiveness, and lower incidence of adverse effects. [1]
- Review prior medication administration (pre-hospital and in the ED) when selecting agents and dose.

**ASSESSMENT AND MONITORING**

- Use the Riker Sedation Agitation Scale (SAS) to determine the severity of agitation.
- **RIKER Sedation-Agitation Scale (SAS)**

| # | Term | Descriptor |
|---|---|---|
| 7 | Dangerous Agitation | Pulling at ET tube, trying to remove catheters, climbing over bedrail, striking at staff, thrashing side-to-side |
| 6 | Very Agitated | Requiring restraints and frequent verbal reminding of limits, biting ETT |
| 5 | Agitated | Anxious or physically agitated, calms to verbal instructions |
| 4 | Calm and Cooperative | Calm, easily arousable, follows commands |
| 3 | Sedated | Difficult to arouse but awakens to verbal stimuli or gentle shaking, follows simple commands but drifts off again |
| 2 | Very Sedated | Arouses to physical stimuli but does not communicate or follow commands, may move spontaneously |
| 1 | Unarousable | Minimal or no response to noxious stimuli, does not communicate or follow commands |

- Patients receiving medication therapy should be placed on end-tidal pCO2 monitoring and cardiac telemetry.
- Document vital signs at least once an hour or more frequently, as clinically warranted.

**SEVERELY AGITATED (SAS 7)**

- Intravenous administration is preferred, when feasible. Unnecessary IM medication administration may increase agitation.
- Maximize the dosing of the first agent, allowing for the onset and effect of prior doses, before administering second agents.
- Adjust dosing for special populations (e.g., elderly, pre-hospital administered medications, etc.) as below.
- Use “Not-Preferred” agents have delayed onset of action and higher incidence of adverse effects and should only be used when preferred agents are unavailable such as due to medication shortage.
- Do not administer diphenhydramine as a prophylactic therapy for dystonic reaction.s[2]

| | Medication | Dose | Soft Max | Onset[3] | Duration | Patient Considerations |
|---|---|---|---|---|---|---|
| **Preferred** | **Droperidol IM/IV** | 5 - 10 mg | 20 mg | 3-10 min | 2-4 hours | EKG for doses greater than 20 mg after patient is calm/sedated[4] |
| | **Ketamine IM** (100 mg/mL) | 2.5 mg/kg | 5 mg/kg | 3-4 min | 15-25 min (anesthetic effect) | Use appropriate concentration for route Emergence reactions may occur |
| | **Ketamine IV** (10 mg/mL) | 1 mg/kg | 2 mg/kg | 1 min | 30-45 min | |
| **Secondary Options** | **Midazolam IM** | 5 - 10 mg | 30 mg | 15 min | 2 hours | Delayed onset IM |
| | **Midazolam IV** | 5 mg | | 1-5 min | 1-2 hours | Hypotension with larger doses |
| | **Olanzapine IM/IV** | 10 mg | 30 mg (including PO doses) | IM: 15 min IV: 5-10 min | 15- 45 min (time to peak) | Separate from IV BZD by 1-2 hours to avoid excessive sedation / cardiorespiratory depression[5] |
| **Not Preferred** | **Haloperidol IM/IV** | 5 mg | 10 mg | IM: 15 min IV: 20 min | 2 hours | Greatest risk for EKG changes |
| | **Lorazepam IM/IV** | 4 mg | 20 mg | IM: 20-30 min IV: 15-20 min | 6-8 hours | Erratic IM absorption |

**IM Ketamine Dosing**[6,7]

- Use rounded dosing for ease of IM administration:

| Range | Dose | Volume (100 mg/mL) |
|---|---|---|
| 50-59 kg | 150 mg | 1.5 mL |
| 60-79 kg | 200 mg | 2 mL |
| 80-99 kg | 250 mg | 2.5 mL |
| ≥100 kg | 300 mg | 3 mL |

**Special Populations**

- Consider alcohol withdrawal as a concomitant or primary cause of agitation. Treat alcohol withdrawal using the phenobarbital/CIWA protocols first.
- Trauma: Consider pain management and the urgency for diagnostic studies prior to administering medications for agitation. Please also consider trauma as one of the possible (likely) factors in the cause of agitation.
- IM Midazolam Prehospital:
    - Evaluate the dose and time from when the dose(s) were administered.
    - If the dose is within a range to control the agitation and the expected onset is likely to have time to act and the patient is still agitated, consider starting therapy from the "preferred" group.
    - If the dose is suboptimal or the therapy is unlikely to have taken affect, consider a reduced dose of a medication from the "preferred" group.
- Older Patients (65+ years)[8]:

- Reduce doses by ~50% in older patients (≥ 65 years of age).
- Prioritize **droperidol** or **olanzapine** in this population; other agents, however, may be appropriate given the clinical situation.
  Avoid benzodiazepines, if possible, given the risk for delirium, accumulation, and association with worse outcomes.

- Combination Therapy
  - Avoid combination therapy as a default response; combination therapy has significantly higher risk of adverse effects.
  - Do not use Diphenhydramine + Haloperidol + Lorazepam ("B52"): Evidence suggests poorer outcomes and delayed agitation control with this combination[9]
  - IV/IM Olanzapine + IV Benzodiazepine: There may be an increased risk of adverse effects with this combination, especially within 1 hour of concomitant administration. Monitor for adverse effects (excessive sedation / cardiorespiratory depression).
  - Droperidol + Midazolam: Consider addition of midazolam as adjunct only after reaching the maximum dose of droperidol.[10–13]

**MODERATE AGITATION (SAS 6)**

- **Do not use ketamine for moderate agitation.**
- IV administration is preferred over IM therapy for moderate agitation if parenteral administration is required.
- Preferred agents are similar to those for severe agitation. Smaller doses will generally be sufficient.
- Use a patients home medication regiment when patients can tolerate oral therapy.

**MILD AGITATION (SAS 5)**

- Patients with mild agitation should be managed with oral therapy, if necessary.
- Administer home medication therapy, when possible.

**REFERENCES**


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