

Caring for the agitated patient: a tiered approach

Caroline J Burke

James Hardy

Eric D Isaacs

Abstract

Management of agitated patients presents a challenge with regard to balancing appropriate diagnostic plans and treatment aimed at controlling symptoms with an interest in prioritizing patient and staff safety and preserving patient dignity. This article will discuss a tiered approach to caring for the agitated patient, including early recognition of escalating behavior, verbal de-escalation techniques, the use and choice of medication and route for symptom control, and concepts related to physical restraint, special populations, and bias.

Keywords agitation; de-escalation; restraint; sedation

Introduction

Caring for agitated patients is a common and complex challenge across clinical settings. An estimated 2.6% of all patients in US emergency departments are agitated,¹ and nearly 50% of US emergency physicians report being physically assaulted in the workplace while over 70% report witnessing another assault.² Despite this reality, relatively few healthcare staff report adequate training in caring for agitated individuals.³ In addition to posing a safety threat, this lack of standardization allows for bias in the implementation of restraints and risks further traumatizing patients.^{4,5} Learning to efficiently de-escalate these high-stress scenarios is a crucial skill for protecting both patients and providers. This article will review a tiered approach to addressing agitation and violence in the clinical setting.

Prevention: environmental safety and self-defense

While it is difficult to anticipate which patients may become violent, adopting universal screening and safety measures can help identify and de-escalate at-risk individuals. Many US emergency

Caroline J Burke MD is a resident physician in the Department of Emergency Medicine at UCSF Medical Center and Zuckerberg San Francisco General Hospital and Trauma Center, University of California, San Francisco, USA. Competing interests: none declared.

James Hardy MD is an attending physician at UCSF Medical Center and an Associate Clinical Professor of Emergency Medicine at the University of California, San Francisco, USA. Competing interests: none declared.

Eric D Isaacs MD FACEP is an attending physician at Zuckerberg San Francisco General Hospital and a Clinical Professor of Emergency Medicine at the University of California, San Francisco, USA. Competing interests: none declared.

Key points

- Recognizing the early signs of escalating behavior allows more timely intervention to de-escalate behavior protecting patients and staff.
- Verbal de-escalation should be attempted first with an emphasis on non-confrontational body language and a soothing vocal tone.
- Offer oral medications to agitated patients prior to parenteral medications as they are very effective and less coercive.
- Choice of medication may be chosen based on the suspected etiology of agitation. Benzodiazepines are effective for many substance-related presentations. Antipsychotic medications are effective when underlying psychiatric illness or stimulant psychosis is suspected.
- While not all agitated patients require medical work-up, consider a subset of etiologies (GOT IVS) that benefit from rapid diagnosis and treatment.

departments require patients to pass through a metal detector and change into a hospital gown to limit access to potential weapons. Systems for assessing agitation (Table 1) and screening for suicidal and homicidal ideation can expedite the care of potentially violent individuals.^{6,7} Patient rooms dedicated for agitated individuals should be located in high-traffic areas, have limited equipment, and be designed for continuous observation.⁶ Developing cross-functional crisis response teams – including providers, nurses, technicians, and security officers – can help prepare staff to respond in the event of a behavioral emergency.⁶

Team members should be trained to identify signs that a patient may escalate and adopt strategies to protect their own physical well-being. The acronym “STAMP” can be used as a practical tool for highlighting concerning behavior: Staring and eye contact, Tone and volume of voice, Anxiety, Mumbling, and Pacing.⁸ When approaching patients of concern, providers should avoid excessive direct eye contact (i.e. staring) and confrontational body language. For safety, it is important to

Classifying agitation severity

Mild agitation	Distressed but redirectable, pacing around room, confused, upset, intrusive, inappropriate language
Moderate agitation	Disruptive, demanding, continuously pacing, showing signs of aggression, unable to cooperate, requires continuous redirection
Severe agitation	Physically assaulting staff or other patients, destroying property, injuring to self, not redirectable

Table 1

respect the patient’s personal space by staying two arms-lengths away. To avoid being trapped in a room by a violent patient, providers should position themselves so they are nearer the door than the patient, but not blocking it. Providers should also limit accessories (i.e. trauma shears, neckties, stethoscopes worn around the neck) that could be weaponized.⁹

Initial assessment: evaluating agitated patients

Once a patient has been identified as agitated, it is important to efficiently determine the most likely etiology in order to prioritize further assessment and treatment.¹⁰ The list of possible etiologies is broad and includes medical, psychiatric, and toxicologic causes, reflected in part by the “GOT IVS” mnemonic which prioritizes those entities benefitting from rapid treatment (Table 2).^{11,12} For any altered or agitated patient, an initial evaluation must include full vital signs and a physical exam.¹² When possible, teams should also obtain collateral information from pre-hospital providers, family members, and medical records.⁷ Abnormal vital signs, evidence of trauma, or an abnormal neurologic exam should be considered “red flags” prompting a thorough medical workup.^{6,7} Further, attentional difficulties can be indicative of delirium and a possible organic medical etiology.¹⁰ Screening for evidence of intoxication or withdrawal syndromes, and evaluating for the presence of psychotic symptoms can also guide management.⁶

While not every agitated patient requires a full medical evaluation, providers should maintain a low threshold for pursuing diagnostic testing based on objective findings. Blood glucose should be obtained for each patient, and further workup can be tailored based on the suspected etiology: for example, a head CT after trauma or blood cultures for possible sepsis.¹¹

Verbal de-escalation

For all agitated patients, providers should make an initial attempt at de-escalation with non-coercive techniques. This begins with the provider’s body language and tone. Assuming a non-confrontational posture and using a soothing voice can diffuse tension.^{9,11} In contrast, responding to patients aggressively, threatening violence, or being deceptive may be counterproductive.⁹ When possible, providers should attempt to affirm patients’ concerns and feelings using empathic statements (Table 3).^{9,13} Attending to patient comfort by offering food, warm blankets, pain control, or nicotine replacement can help alleviate agitation.^{9,14}

It is also crucial for staff safety that the team leader set boundaries for escalating patients. Providers should introduce

“GOT IVS” mnemonic: agitation etiologies requiring rapid diagnosis and treatment

Glucose	Hypoglycemia
Oxygen	Hypoxia
Trauma, Temperature	Head injury; hyperthermia, hypothermia
Infection	Meningitis or sepsis
Vascular	Stroke or intracranial hemorrhage
Seizure	Postictal or status epilepticus

Table 2

“SAVE” mnemonic: approach to verbal de-escalation

Support	“We are here to help you”
Acknowledge	“I understand this has been a difficult day”
Validate	“Lots of people have felt similarly before”
Emotion naming	“It seems that you’re frustrated”

Table 3

themselves early in the encounter and use clear language to establish expectations. Patients should be directly reminded that they cannot threaten staff, other patients, or facility property.^{9,11} These verbal techniques can help address unsafe behavior and avoid the need for further restraint.

Oral and intranasal medications

If verbal de-escalation is not sufficient, the patient should next be offered oral medications, which are typically as effective and less coercive than other formulations.⁶ These are available in three broad classes: first-generation anti-psychotics, second-generation anti-psychotics, and benzodiazepines.

Oral first-generation antipsychotics are appropriate for patients with known psychiatric disease, or at low doses for those with persistent delirium. The most common of these is haloperidol, which can be given 2.5–5mg PO for mild to moderate agitation. Haloperidol may be redosed every 15–30 minutes. As with other first-generation options, haloperidol carries a risk of QTc prolongation and extrapyramidal side effects (EPS). First-generation medications can be co-administered with a benzodiazepine or antihistamine to reduce the risk of EPS.

Second-generation anti-psychotics are an increasingly popular oral medication option given their improved side effect profile, particularly with regard to EPS. Two common options include olanzapine 5–10mg PO and risperidone 1–2mg PO. Both can be used for mild to moderate agitation particularly for patients with known psychiatric disease as well as stimulant psychosis.^{15,16}

Benzodiazepines are an ideal option for many substance-use related presentations, particularly for alcohol or benzodiazepine withdrawal and for stimulant intoxication. They are also an acceptable choice for undifferentiated agitation.¹⁷ Lorazepam 0.5–2mg PO has an onset of action of 20–30 minutes and a longer duration of effect than other benzodiazepines.

Intranasal medications, while less frequently available, are gaining popularity because of their ease of use and reduced risk of needlestick injuries. Several common sedating medications are available in intranasal formulations, including midazolam, lorazepam, and ketamine.¹⁸ Intranasal olanzapine is in development, and intranasal loxapine is available in some practice settings for agitation related to schizophrenia and bipolar disorder.^{14,19}

Intramuscular and intravenous medications

Despite these verbal techniques and oral medications, many agitated patients – one study has suggested a majority¹ – will require intramuscular or intravenous sedation. The numerous options are summarized in Table 4 and reviewed briefly below.

Overview of common medication options

Medication	Dose	Time to onset	Half-life	Contraindications and other considerations
First-generation antipsychotics				
Haloperidol	PO: 2.5–10mg IM: 2.5–10mg IV: 1–2mg (<i>off label</i>)	IV: 5–20 minutes	12–18 hours	Avoid in QT prolongation, seizures, pregnancy, lactation Can be given along with benztropine or diphenhydramine to limit EPS
Droperidol	IM or IV: 2.5–5mg	15–30 minutes	6–8 hours	
Second-generation anti-psychotics				
Olanzapine	PO: 5–10mg IM: 10mg IV: 5–10mg (<i>off label</i>)	15–45 minutes	2–4 hours	Avoid concomitant use of IM olanzapine and parenteral benzodiazepines
Quetiapine	PO: 25mg	1–2 hours	6–7 hours	Medication of choice for patients with Parkinson's Disease
Risperidone	PO: 1–2mg	30–60 minutes	3–20 hours	Caution orthostasis and higher EPS rates
Ziprasidone	IM: 10–20mg	15–20 minutes	2–4 hours	Risk of prolonged QTC
Benzodiazepines				
Lorazepam	PO, IV, or IM: 0.5–2mg IN: 0.1mg/kg	PO: 2 hours IV: 1–3 minutes IM, IN: 15–30 minutes	10–20 hours	Monitor for respiratory depression Can be given alone or in combination with anti-psychotics
Midazolam	IV or IM: 2.5–5mg IN: 0.2–0.8mg/kg	IV: 1–5 minutes IM: 10–20 minutes IN: 5–15 minutes	1–2 hours	
Sedative-hypnotic				
Ketamine	IV: 1–2mg/kg IM: 4–6 mg/kg IN: 3–6 mg/kg	IV: 1–2 minutes IM: 4–5 minutes IN: 5–10 minutes	10–20 minutes	Side effects: Hypertension and tachycardia, laryngospasm, vomiting Start at half dose if other agents have been administered

Table 4

Among first-generation anti-psychotics, haloperidol remains a common choice and can be given in 2.5–10mg doses. Droperidol is available in IM and IV formulations in the United States and carries a shorter half life (134 minutes) than Haloperidol (21–24 hours). These medications should be avoided in those at increased risk for QTc prolongation and a history of EPS.

There are several options for second-generation anti-psychotics. Olanzapine is an effective monotherapy and can be administered 5–10mg IM, with an onset of 15–45 minutes and a half-life of 2–4 hours. Because of the risk of excess sedation and respiratory depression, the European Medicines Agency recommends separating the administration of IM olanzapine and parenteral benzodiazepines by at least 60 minutes. In the US, the FDA states simply that concomitant administration of intramuscular olanzapine and parenteral benzodiazepine has not been studied and is therefore not recommended.²⁰

Ziprasidone is available in 10–20mg IM dosing, though is the most likely of the SGAs to cause QT prolongation. Staff should be aware that the IM formulation of ziprasidone requires reconstitution before it can be administered.

Intramuscular benzodiazepines remain a reliable choice for rapid chemical restraint. Midazolam has been shown to have the fastest sedating effect²¹ and can be dosed 2.5–5mg IM or 1–2mg IV and titrated every 3–5 minutes. Lorazepam is another option, available 0.5–2mg IM or IV and redosed every 10–30 minutes.

Ketamine is available as an alternative sedation choice dosed 1–2mg/kg IV or 4–6 mg/kg IM, though it is not typically

considered first-line. While it is relatively quick acting, ketamine carries an increased risk of intubation¹⁹ and is not felt to treat the underlying reason for the patient's agitation.²²

Physical restraints

It is sometimes necessary to employ physical restraints to maintain the safety of patients and providers and facilitate medication administration. Recent studies have found that 84% of agitated patients in the emergency department ultimately required physical restraint,¹ amounting to an estimated 0.5% of all emergency department visits.²³ When necessary, restraints should be applied by a coordinated team of at least five members, with one to control each limb and a leader at the patient's head. Soft restraints should be attached to the bedframe, and patients should be positioned on their side or supine with their head elevated. These patients require continuous monitoring, and physical restraints should be removed as soon as safely possible.¹¹

Reassessment and next steps

After initial de-escalation, providers must develop a plan for reassessment and further treatment. This may include more extensive medical workup, transfer to psychiatric care, or continued monitoring until a patient is able to participate in a therapeutic interview. Final disposition is dependent on patients' assessed decision-making capacity, the results of their medical and psychiatric evaluations, and the resolution of their agitation.

Special populations

Both pediatric and elderly populations require adjustments to the framework listed above. Among pediatric patients, greater emphasis should be placed on verbal de-escalation and oral medications given the elevated risk of traumatizing children and families. Many pediatric patients benefit from “calming” agents such as diphenhydramine, benzodiazepines, and clonidine, though it should be noted that some children have paradoxical reactions to these medications.²⁴ Additional doses of home medications can be offered in order to avoid polypharmacy.²⁵

Elderly patients also require a tailored approach to agitation given the increased prevalence of organic medical etiologies, delirium, and dementia. These individuals benefit from delirium screening and prevention in addition to a thorough home medication review. Because of their deliriogenic potential, sedating pain medications, benzodiazepines, and diphenhydramine should be avoided whenever possible. Instead, elderly patients may benefit from symptom management through risperidone, olanzapine, haloperidol, or quetiapine. Intramuscular medications are given at half doses, and physical restraint should be avoided given an elevated risk of injury and delirium in this population.²⁶

Reflections on bias

Addressing agitation and violence in the clinical setting is a high stress encounter that has the potential to exacerbate underlying biases. A potential pitfall is for staff to over-react to people from ethnic/cultural groups where louder volumes and more emotional tones are normal and acceptable. One study observed an increased likelihood of utilizing physical restraints for black patients,⁵ and black patients and their visitors have been shown to be twice as likely to have security called as their white peers.²⁷ Incorporating training around bias and recruiting a diverse workforce are ongoing measures for improving the equity of health outcomes. Trauma-informed care has also been proposed as a tool for mitigating the effects of bias on vulnerable patient populations who may present as agitated.²⁸

Conclusion

Agitation is a common challenge across clinical settings that represents a safety risk for patients and providers. This article reviewed a tiered approach to addressing these patients. Providers should ensure consistent screening tools and develop a working environment that promotes safety for each encounter. Agitated patients should be approached with a broad differential diagnosis in mind. Verbal de-escalation followed by the offering of oral medications should be the first line strategy in order to promote patient autonomy and team safety. When necessary, intramuscular sedation and physical restraints may be required to facilitate diagnosis and treatment. These strategies should be employed with an emphasis on limiting patient coercion, protecting care team safety, and making efficient decisions about disposition. ◆

REFERENCES

- 1 Miner James R, Klein Lauren R, Cole Jon B, Driver Brian E, Moore Johanna C, Ho Jeffrey D. The characteristics and prevalence of agitation in an Urban County emergency department. *Ann Emerg Med* 2018; **72**: 361–70. <https://doi.org/10.1016/j.annemergmed.2018.06.001>.
- 2 ACEP emergency department violence poll research results. 2018, <https://www.emergencyphysicians.org/globalassets/files/pdfs/2018acep-emergency-department-violence-pollresults-2.pdf> (accessed 1 June 2021).
- 3 Lavoie FW, Carter GL, Danzl DF, et al. Emergency department violence in United States teaching hospitals. *Ann Emerg Med* 1988; **17**: 1227–33.
- 4 Wong Ambrose H, Ray Jessica M, Rosenberg Alana, et al. Experiences of individuals who were physically restrained in the emergency department. *JAMA Network Open* 2020; **3**. <https://doi.org/10.1001/jamanetworkopen.2019.19381>.
- 5 Schnitzer Kristina, Merideth Flannery, Macias-Konstantopoulos Wendy, Hayden Douglas, Shtasel Derri, Bird Suzanne. Disparities in care: the role of race on the utilization of physical restraints in the emergency setting. *Acad Emerg Med* 2020; **27**: 943–50. <https://doi.org/10.1111/acem.14092>.
- 6 Roppolo Lynn P, Morris David W, Khan Fuad, et al. Improving the management of acutely agitated patients in the emergency department through implementation of project BETA (best practices in the evaluation and treatment of agitation). *J Am College Emergency Phys Open* 2020; **1**: 898–907. <https://doi.org/10.1002/emp2.12138>.
- 7 Stowell Keith, Florence Peter, Harman Herbert J, Glick Rachel J. Psychiatric evaluation of the agitated patient: consensus statement of the American association for emergency psychiatry project BETA psychiatric evaluation workgroup. *West J Emerg Med* 2012; **13**: 11–6. <https://doi.org/10.5811/westjem.2011.9.6868>.
- 8 Luck Laretta, Jackson Debra, Usher Kim. STAMP: components of observable behaviour that indicate potential for patient violence in emergency departments. *J Adv Nurs* 2007; **59**: 11–9. <https://doi.org/10.1111/j.1365-2648.2007.04308.x>.
- 9 Richmond Janet, Berlin Jon S, Fishkind Avrim B, et al. Verbal de-escalation of the agitated patient: consensus statement of the American association for emergency psychiatry project BETA de-escalation workgroup. *West J Emerg Med* 2012; **13**: 17–25. <https://doi.org/10.5811/westjem.2011.9.6864>.
- 10 Nordstrom Kimberly, Zun Leslie S, Wilson Michael P, et al. Medical evaluation and triage of the agitated patient: consensus statement of the American association for emergency psychiatry project BETA medical evaluation workgroup. *West J Emerg Med* 2012; **13**: 3–10. <https://doi.org/10.5811/westjem.2011.9.6863>.
- 11 Devos Elizabeth. Agitation. 2019, www.saem.org/about-saem/academies-interest-groups-affiliates2/cdem/for-students/online-education/m4-curriculum/group-m4-psychiatry/agitation.
- 12 Rossi Jennifer, Swan Megan C, Isaacs Eric D. The violent or agitated patient. *Emerg Med Clin* 2010; **28**: 235–56. <https://doi.org/10.1016/j.emc.2009.10.006>.
- 13 Helman Anton. A 5-step approach to the agitated patient. 2018. ACEP Now, <https://www.acepnow.com/article/a-5-step-approach-to-the-agitated-patient/>.
- 14 Pompili Maurizio, Ducci Giuseppe, Galluzzo Alessandro, Rosso Gianluca, Palumbo Claudia, De Berardis Domenico. The management of psychomotor agitation associated with schizophrenia or bipolar disorder: a brief review. *Int J Environ Res Publ Health* 2021; **18**: 4368. <https://doi.org/10.3390/ijerph18084368>.

- 15 Shoptaw SJ, Kao U, Ling W. Treatment for amphetamine psychosis. *Cochrane Database Syst Rev* 2009; **Issue 1**.
- 16 Fluyau D, Mitra P, Lorthe K. Antipsychotics for amphetamine psychosis. A systematic review. *Front Psychiatr* 2019; **10**: 740. <https://doi.org/10.3389/fpsy.2019.00740>.
- 17 Lukens Thomas W, Wolf Stephen J, Edlow Jonathan A, et al. Clinical policy: critical issues in the diagnosis and management of the adult psychiatric patient in the emergency department. *Ann Emerg Med* January 2006; **47**.
- 18 Bailey Abby M, Baum Regan A, Horn Karolyn, et al. Review of intranasally administered medications for use in the emergency department. *J Emerg Med* 2017; **53**: 38–48. <https://doi.org/10.1016/j.jemermed.2017.01.020>.
- 19 Guerrero Pilar, Mycyk Mark B. Physical and Chemical Restraints (an Update). *Emerg Med Clin* 2020; **38**: 437–51. <https://doi.org/10.1016/j.emc.2020.02.002>.
- 20 Hayes Bryan D. Does the combination of parenteral olanzapine with benzodiazepines for agitation in the ED increase the risk of adverse events?. 16 Jan 2021. ALiEM, www.aliem.com/combination-parenteral-olanzapine-benzodiazepines-agitation-adverse-events.
- 21 Klein Lauren R, Driver Brian E, Miner James R, et al. Intramuscular midazolam, olanzapine, ziprasidone, or haloperidol for treating acute agitation in the emergency department. *Ann Emerg Med* 2018; **72**: 374–85. <https://doi.org/10.1016/j.annemergmed.2018.04.027>.
- 22 Hopper Austin B, Vilke Gary M, Castillo Edward M, Campillo Ashleigh, Davie Timothy, Wilson Michael P. Ketamine use for acute agitation in the emergency department. *J Emerg Med* 2015; **48**: 712–9. <https://doi.org/10.1016/j.jemermed.2015.02.019>.
- 23 Wong Ambrose H, Andrew Taylor R, Ray Jessica M, Bernstein Steven L. Physical Restraint Use in Adult Patients Presenting to a General Emergency Department. *Ann Emerg Med* 2019; **73**: 183–92. <https://doi.org/10.1016/j.annemergmed.2018.06.020>.
- 24 Gerson Ruth, Malas Nasuh, Feuer Vera, Silver Gabrielle H, Prasad Raghuram, Mroczkowski Megan M. 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; **20**: 409–18. <https://doi.org/10.5811/westjem.2019.1.41344>.
- 25 Santillanes Genevieve, Gerson Ruth S. Special considerations in the pediatric psychiatric population. *Psychiatr Clin* 2017; **40**: 463–73. <https://doi.org/10.1016/j.psc.2017.05.009>.
- 26 Shenvi Christina, Kennedy Maura, Austin Charles A, Wilson Michael P, Gerardi Michael, Schneider Sandy. Managing Delirium and Agitation in the Older Emergency Department Patient: The ADEPT Tool. *Ann Emerg Med* 2020; **75**: 136–45. <https://doi.org/10.1016/j.annemergmed.2019.07.023>.
- 27 Green Carmen R, McCullough Wayne R, Hawley Jamie D. Visiting Black Patients: Racial Disparities in Security Standby Requests. *J Natl Med Assoc* 2018; **110**: 37–43. <https://doi.org/10.1016/j.jnma.2017.10.009>.
- 28 Agboola Isaac K, Coupet Jr Edouard, Wong Ambrose H. “The Coats That We Can Take Off and the Ones We Can’t”: The Role of Trauma-Informed Care on Race and Bias During Agitation in the Emergency Department. *Ann Emerg Med* 2021; **77**: 493–8. <https://doi.org/10.1016/j.annemergmed.2020.11.021>.

Acknowledgements

Dr. Hardy does not have any funded research, but he does have funding for quality improvement work unrelated to this topic. His funding for work on Geriatric Emergency Departments is funded through the West Foundation and the Dolby Family Foundation. He has funding for substance use disorder quality improvement work through the BHI. Dr. Isaacs also has quality improvement work on Geriatric Emergency Departments supported by the San Francisco General Hospital Foundation through Hirsch Philanthropies. His research in Palliative Care Communication is funded through the National Institutes of Health. Dr. Burke has no outside research funding.