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Violent Patient Management: Advanced Safety, Security, and Clinical Support Strategies in Healthcare Settings

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Abstract

Background: Workplace violence in healthcare settings is a prevalent and serious occupational hazard, disproportionately affecting frontline staff and disrupting clinical operations. Violent or aggressive patient behavior can stem from a complex interplay of medical, psychiatric, substance-related, and environmental factors, creating significant safety challenges for healthcare teams.

Aim: This review aims to outline advanced safety, security, and clinical support strategies for the management of violent patients, focusing on a systematic, interprofessional approach that prioritizes de-escalation, accurate diagnosis, and evidence-based intervention.

Methods: A comprehensive synthesis of current literature, guidelines (e.g., from ACEP), and best practices is presented. The review covers the epidemiology, etiology, and pathophysiology of violence, followed by a structured approach to evaluation, differential diagnosis, and a tiered management strategy ranging from non-pharmacological techniques to pharmacological sedation and physical restraint.

Results: Effective management begins with prevention through environmental design, staff training, and early recognition of agitation. The cornerstone of intervention is verbal de-escalation. When this fails and imminent danger exists, pharmacological agents (e.g., IM haloperidol/lorazepam, atypical antipsychotics, or ketamine) or physical restraints may be necessary, applied under strict protocols. A thorough medical and psychiatric evaluation is critical to identify and treat underlying causes. Complications of management include oversedation, respiratory depression, and physical injury.

Conclusion: Managing violent patients requires a balanced, patient-centered approach that integrates de-escalation, rapid stabilization, and definitive treatment of the underlying condition. Success depends on a coordinated interprofessional team, clear institutional policies, and a culture of safety that protects both patients and staff.

Keywords: Workplace violence, De-escalation, Chemical restraint, Physical restraint, Agitation management, Interprofessional team.

Introduction

Violence within healthcare environments has emerged as a profound global concern, affecting patient outcomes, staff well-being, and the overall safety and functionality of clinical settings. Violent or aggressive behavior can arise from a wide spectrum of underlying factors, including untreated or exacerbated psychiatric disorders, substance intoxication or withdrawal, cognitive impairment, neurologic injury, acute emotional distress, or frustration associated with illness and hospitalization.[1] Unlike other occupational settings, healthcare facilities must continue providing care to individuals regardless of their behavioral state, which places clinicians, nurses, and security personnel in uniquely challenging ethical and professional situations. Even when a patient poses an imminent threat, the obligation to deliver treatment persists, complicating decision-making and necessitating carefully balanced strategies that protect both patient rights and staff safety.[2][3] Exposure to violent patients significantly disrupts clinical operations. It increases psychological stress among healthcare providers, contributes to burnout, and reduces overall

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job satisfaction, which can in turn compromise the quality of care. Violent incidents may also impede workflow efficiency, delay diagnostic and therapeutic interventions, and create an environment of apprehension for both staff and other patients. These consequences extend beyond immediate physical harm, influencing long-term organizational stability and staff retention. As healthcare workers—particularly nurses, emergency department personnel, and frontline support staff—experience higher rates of nonfatal occupational injuries from patient aggression compared with other industries, the importance of systematic prevention approaches becomes increasingly evident. Addressing violent behavior requires a comprehensive understanding of its multifactorial origins as well as early recognition of warning signs. Prevention and mitigation strategies include robust staff training in de-escalation, enhanced communication skills, structured security protocols, and interprofessional collaboration between clinical teams, mental health specialists, and health security personnel. Establishing a supportive environment through risk assessment, environmental controls, and clear organizational policies strengthens safety while preserving the dignity and rights of the patient. Ultimately, managing violent patients is not solely a security task—it is a multidimensional clinical and administrative responsibility that demands continuous preparedness, empathy, and coordinated teamwork to maintain a safe and therapeutic healthcare setting [1][2][3].

Etiology

Violence in healthcare environments arises from a complex interplay of patient, environmental, and systemic factors. Evidence from a comprehensive meta-analysis demonstrates that patients constitute the primary source of violent incidents in clinical settings, representing a median of 56% of reported cases, while visitors account for approximately 22%.[4] This distribution underscores the inherently unpredictable nature of patient interactions, particularly in acute care environments where medical, psychological, and social stressors converge. A deeper understanding of these patterns enables healthcare professionals, including nursing, health assistants, and security staff, to anticipate potential escalation and apply preventive strategies. Several patient-related predictors have been consistently associated with increased risk of violent behavior. Demographically, male sex is more frequently linked with aggression, although this pattern may vary across clinical populations. A prior history of violence is one of the strongest predictors, as is behavioral volatility during previous hospital encounters. In addition, patients brought in under police custody or those with documented histories of victimization often present heightened emotional or defensive responses that can manifest as aggression. Substance impairment — including alcohol intoxication, stimulant use, and withdrawal states — significantly elevates the likelihood of unpredictable behavior due to altered judgment, disinhibition, or agitation. Psychiatric disorders, particularly schizophrenia, bipolar disorder, and severe depression, also contribute to violent presentations, especially when acute psychosis, paranoia, or severe mood dysregulation is present [4].

Risk factors for healthcare workers experiencing violence are also well documented. Younger staff members or those with limited clinical experience tend to be more vulnerable, likely due to reduced exposure to de-escalation techniques and lower confidence in confronting aggressive behavior. Nurses, especially those in frontline positions, experience disproportionately higher rates of violence compared with other healthcare professionals owing to their frequent and prolonged patient contact. Environmental and systemic factors further influence the likelihood of violent incidents. In the emergency department, where acuity and unpredictability are high, the risk increases significantly. Contributing elements include understaffing, long patient waiting times, overcrowding, resource limitations, and heightened emotional tension among patients and families. Night shifts pose additional hazards due to reduced staffing levels, decreased security presence, and increased presentation of patients with intoxication or psychiatric crises. Weak therapeutic alliances or strained patient–provider relationships also correlate with heightened aggression, as patients may perceive inadequate communication, unmet expectations, or insufficient emotional support. Collectively, these etiologic factors highlight the multifaceted origins of violence in healthcare settings. Recognizing the interplay of patient characteristics, clinician vulnerabilities, and environmental pressures is crucial for shaping targeted interventions, refining staff training programs, and strengthening institutional safety protocols [4].

Epidemiology

Workplace violence in healthcare has reached a critical level and is now recognized as a major occupational hazard for clinicians, nurses, support staff, and security personnel. Data from the U.S. Bureau of Labor Statistics indicate that the healthcare and social assistance sector has the highest counts and annualized incidence rates of workplace violence among all private industry sectors for 2021–2022. During this period, 41,960 nonfatal workplace violence incidents in this sector resulted in days away from work, job restriction, or job transfer, accounting for approximately 72.8% of all such cases in private industry.[5] The annual incidence rate was 14.2 cases per 10,000 full-time workers, underscoring the disproportionate burden borne by healthcare professionals. This epidemiologic pattern reflects both the unique nature of healthcare work and the vulnerability of the populations served. Healthcare workers provide services to individuals who may be

acutely ill, in pain, intoxicated, delirious, psychotic, or under severe psychological stress. These conditions, combined with environmental factors such as overcrowded emergency departments, long waiting times, and limited resources, create a high-risk context for violent incidents. Notably, verbal aggression is nearly ubiquitous in clinical practice; up to 97% of healthcare workers report exposure to verbal violence, and up to 82% experience physical violence at some point in their careers.[5] These figures are likely underestimated due to underreporting driven by fear of stigma, normalization of violence as "part of the job," or perceived lack of institutional response. Certain clinical areas are disproportionately affected. Emergency departments, psychiatric units, intensive care units, and long-term care facilities report higher rates of both verbal and physical assaults. Nurses, health assistants, and security personnel are at particular risk due to their constant frontline contact with patients and visitors. Younger staff or those with fewer years of experience also tend to experience higher incidence, likely due to limited exposure to de-escalation techniques and reduced confidence in managing conflict. The high prevalence of violence has broad implications, contributing to burnout, staff turnover, absenteeism, and reduced morale, which in turn affect patient safety and quality of care. From an epidemiologic perspective, workplace violence in healthcare is not a rare or isolated event but a systemic and persistent problem that demands comprehensive preventive strategies, institutional policy development, and consistent training for all healthcare team members, including health security staff [5].

Pathophysiology

The "pathophysiology" of violent behavior in clinical settings can be understood as the interaction of biological, psychological, and social determinants that create a state of heightened arousal, impaired judgment, and lowered thresholds for aggression. Violent patients often present with neurobiological or psychiatric conditions that dysregulate emotional control, impulse inhibition, and perception of threat. Disorders such as schizophrenia, bipolar disorder, major depressive disorder with psychotic features, personality disorders, and neurocognitive disorders (e.g., dementia, delirium) can contribute to paranoid ideation, hallucinations, disorganized thinking, or severe mood instability. These symptoms can distort the patient's interpretation of the environment, causing staff or family members to be perceived as hostile, intrusive, or threatening. Substance use further compounds this risk. Alcohol, stimulants (e.g., amphetamines, cocaine), and certain synthetic drugs alter neurotransmitter systems involved in reward, inhibition, and arousal, frequently resulting in disinhibition, agitation, irritability, or frank aggression. Withdrawal states—such as alcohol or benzodiazepine withdrawal—may precipitate delirium, autonomic hyperactivity, and confusion, which can also manifest as violent or combative behavior. Neurologic conditions, including traumatic brain injury, epilepsy, brain tumors, or strokes affecting frontal or limbic structures, can disrupt circuits responsible for behavioral regulation and impulse control, making patients more prone to aggression in response to minor triggers. Clinical studies have identified several positive predictors of violence that reflect these underlying mechanisms. Being male, having a prior history of violence, arriving in police custody, a history of being a victim of violence, impairment due to substance use, and the presence of a psychiatric disorder are all associated with increased likelihood of aggressive incidents. These factors often correlate with underlying changes in executive functioning, impulse control, emotional regulation, and threat perception. At the same time, environmental stimuli—such as loud noise, overcrowding, perceived neglect, or restrictive interventions—can act as external triggers that amplify internal dysregulation [4][5][6].

From the healthcare system's perspective, staffing patterns, inadequate training in de-escalation, and inconsistent enforcement of security protocols may inadvertently contribute to the escalation of violence. When staff are stressed, fatigued, or overburdened, their ability to communicate empathically, set boundaries calmly, and recognize early warning signs is diminished, which can worsen already fragile interactions. Thus, the "pathophysiology" of violent behavior in the hospital is not purely biological but arises from a dynamic interaction between patient-related vulnerabilities and system-level factors. Recognizing these mechanisms is crucial for designing targeted interventions that reduce risk, such as early identification of high-risk patients, environmental modification, staff training in de-escalation techniques, and timely involvement of specialized health security personnel.

History and Physical

A thoughtful, structured history and physical examination are foundational to understanding the drivers of violent behavior and designing an appropriate management plan. The clinical encounter should begin, where safely possible, with efforts to establish rapport and reduce environmental stimuli that may exacerbate agitation. A comprehensive history explores past medical and surgical conditions, psychiatric diagnoses, prior episodes of aggression, substance and alcohol use, and any neurologic illnesses or injuries. Detailed medication history, including psychotropics, sedatives, analgesics, and any recent dose changes, omissions, or nonadherence, is essential, given the impact of pharmacologic factors on behavior. The psychiatric history should probe for mood symptoms, psychosis, anxiety, post-

traumatic stress, impulsivity, and personality traits that may influence responses to stress. Family history of psychiatric or neurologic illness may offer additional context. A social history, including recent stressors, bereavement, interpersonal conflict, financial strain, or legal problems, can help identify acute triggers. The temporal pattern of agitation—onset, duration, progression, and associated events—can clarify whether the behavior is linked to an acute medical condition, intoxication, withdrawal, or exacerbation of a chronic psychiatric illness. Physical examination must be systematic and thorough but tailored to safety. A head-to-toe assessment should look for signs of trauma, infection, or neurologic impairment, such as lacerations, contusions, focal deficits, or signs of head injury. Vital signs provide important clues: fever may suggest infection or sepsis; tachycardia, hypertension, and diaphoresis may indicate intoxication, withdrawal, or hyperadrenergic states. Pupillary size, nystagmus, and odor of alcohol or other substances can give valuable clues regarding intoxication. A focused neurologic exam should assess orientation, level of consciousness, motor strength, coordination, and any focal neurological signs that might indicate stroke, intracranial pathology, or seizure-related phenomena [4][5].

Because safety is paramount, violent or highly agitated patients should be managed in a controlled environment designed to reduce harm. Ideally, they should be placed in designated safe or de-escalation rooms equipped with padded furniture, minimal movable objects, reduced noise, and calming lighting. Potential weapons—such as sharps, cables, metal objects, blood pressure stands, and loose equipment—should be removed. When indicated, health security and trained staff should be summoned early and positioned nearby, ideally within rapid reach but not in a confrontational or intimidating manner. Their presence serves as both a deterrent and an immediate response resource should the situation escalate. This structured, safety-conscious approach to history and physical allows clinicians to move beyond managing behavior alone and toward diagnosing and treating the underlying condition—be it intoxication, delirium, psychosis, neurologic insult, or severe emotional distress. At the same time, environmental control and strategic staff positioning protect other patients, visitors, and staff, and support the use of verbal de-escalation, therapeutic engagement, and, when necessary, pharmacologic or physical interventions in a controlled, ethical, and patient-centered manner [4][5].

Evaluation

Evaluating a violent or agitated patient requires a systematic and comprehensive approach aimed at identifying the underlying cause of the behavior and guiding appropriate treatment. Agitation in clinical settings can arise from a broad spectrum of etiologies, and distinguishing between functional (psychological) and organic (physiologic) origins is essential for accurate diagnosis, timely intervention, and ensuring the safety of both patients and healthcare staff. Functional causes of agitation are primarily rooted in psychiatric or psychological processes. These may include acute psychiatric disorders such as schizophrenia, bipolar mania, severe depression with psychotic features, or personality disorders characterized by emotional dysregulation. Substance-related causes are also predominant in this category, encompassing intoxication with alcohol or illicit drugs, withdrawal syndromes—particularly alcohol or benzodiazepine withdrawal—and reactions to synthetic substances that alter cognition and impulse control. Acute psychological distress, including reactions to traumatic events, posttraumatic stress disorder, anxiety crises, or situational stress within the hospital environment, can also trigger impulsive or violent behavior. Functional causes often present with fluctuating emotional states, impaired judgment, and heightened reactivity to external stimuli. Organic causes, in contrast, arise from physiological disturbances affecting brain function or systemic health. Neurological conditions—including delirium, dementia, stroke, seizures, and traumatic brain injury—frequently manifest as confusion, disorientation, and agitation. Metabolic and endocrine abnormalities such as hypoglycemia, hyperglycemia, hyponatremia, hypercalcemia, hepatic encephalopathy, renal failure, and thyrotoxicosis can significantly impair cognition, precipitating agitation. Infections, particularly urinary tract infections, pneumonia, or sepsis, commonly induce delirium in older adults, with agitation serving as an early clinical clue. Medication-related causes must also be considered; anticholinergics, steroids, stimulants, polypharmacy, or abrupt medication discontinuation can provoke severe behavioral changes. Uncontrolled pain, hypoxia, dehydration, or sleep deprivation are additional organic contributors that can exacerbate agitation in vulnerable patients [4][5][6].

Differentiating between these two categories requires a detailed and structured assessment. A comprehensive history should explore recent behavioral changes, substance use, medication adherence, psychiatric history, neurological symptoms, and recent infections or metabolic disturbances. Collateral information from family members, caregivers, or emergency personnel is often invaluable, especially when the patient is unable or unwilling to provide reliable information. Physical examination should assess vital signs, level of consciousness, neurologic status, signs of trauma, intoxication indicators, and the presence of systemic illness. Diagnostic testing—including complete blood count, metabolic panel, glucose testing, toxicology screens, thyroid studies, urinalysis, and inflammatory markers—can uncover metabolic, infectious, or toxic

causes. Imaging studies, particularly head computed tomography, may be warranted in cases involving head trauma, focal neurologic deficits, or suspected intracranial pathology. When functional etiologies are suspected or organic causes have been excluded, a formal mental health evaluation becomes essential to identify underlying psychiatric contributions. Ultimately, effective evaluation of an agitated patient relies on integrating clinical findings with diagnostic testing while prioritizing patient and staff safety. This distinction between organic and functional causes guides targeted treatment, prevents misdiagnosis, and supports timely stabilization in often rapidly evolving clinical scenarios [4][5][6].

Treatment / Management

Management of violent or potentially violent patients in healthcare settings must prioritize safety, dignity, and therapeutic intent. The overarching goal is to calm the situation, prevent harm, and enable appropriate diagnosis and treatment, using the least restrictive measures possible. De-escalation represents the first and most critical step in this process and should always precede consideration of physical or chemical restraint whenever it is safe to do so.[6] De-escalation techniques focus on reducing emotional intensity, building rapport, and restoring a sense of control for the patient. This is achieved through calm, nonconfrontational communication; clear, simple language; and a respectful tone. Clinicians should offer reassurance, validate distress without endorsing harmful behavior, and avoid arguing or engaging in power struggles, even when patients present with hostile or provocative remarks. Demonstrating empathy—such as acknowledging fear, pain, or frustration—helps reduce perceived threat and can decrease agitation. Providing basic needs, such as food, fluids, blankets, or oral medication when appropriate, may also help patients feel less vulnerable and more cooperative.[6] Verbal de-escalation requires staff to remain aware of their body language, physical positioning, and environmental factors. Maintaining an appropriate distance, minimizing crowding, and ensuring that only essential personnel are present can reduce the patient's sense of being overwhelmed. The environment should be modified when possible, for instance by decreasing noise and bright lights. Throughout this process, staff must continuously assess for signs of escalation or imminent risk, such as clenched fists, pacing, threats, sudden changes in tone, or attempts to approach staff aggressively. When de-escalation is successful, it often avoids the need for coercive measures, reduces trauma to the patient, and protects staff from potential injury. When these nonpharmacologic strategies fail and the patient continues to pose a clear and immediate danger to themselves or others, physical restraint may become necessary. The use of physical restraints is a major clinical and ethical decision, as it directly impacts civil rights, bodily autonomy, and the right to refuse aspects of care. Restraints are justified only when there is a serious and imminent risk of harm, and when less restrictive measures have been attempted or are clearly not feasible. The Centers for Medicare and Medicaid Services (CMS) define restraints broadly as any manual method, mechanical device, material, or equipment that immobilizes or restricts a patient's movement, or any drug used primarily to control behavior or restrict mobility that is not part of standard treatment for the patient's condition.[6]

Professional guidance, such as that from the American College of Emergency Physicians (ACEP), emphasizes several core principles governing restraint use. Verbal de-escalation and targeted treatment of medical or psychiatric causes should always be attempted first, when safely possible, prior to applying restraints. If restraints are required, they must be tailored to the individual, applied in a way that preserves as much privacy and dignity as possible, and limited to the least restrictive option necessary to ensure safety. Staff must be appropriately trained not only in the mechanical aspects of restraint application but also in trauma-informed care, de-escalation, and monitoring of patients in restraint or seclusion. Institutional protocols are essential to ensure ongoing observation, frequent reassessments, and timely discontinuation of restraints once the acute risk has passed. Detailed documentation is mandatory, including the clinical rationale for restraint use, alternatives attempted, the type and duration of restraint, and serial assessments of the patient's physical and mental status. Restraint practices must comply with laws, regulations, and accreditation standards to safeguard both patients and providers.[6] In practical terms, physical restraints may include two-point or four-point devices, applied to the wrists and ankles, and may be constructed of soft materials or more rigid substances such as leather or nylon. Proper application is vital to avoid injury; restraints must be secure but not overly tight, allowing adequate circulation and minimizing risk of nerve compression. Soft restraints may paradoxically tighten when patients struggle, increasing the risk of circulatory compromise in the extremities. Leather or nylon restraints tend to maintain a more consistent width and pressure, reducing the likelihood of distal ischemia; however, they are more difficult to cut in an emergency, necessitating clear availability of release mechanisms. For these reasons, leather or nylon restraints are often preferred in highly combative patients. During restraint, patients must be continuously monitored. Regular position changes and range-of-motion assessments are needed to prevent complications such as pressure ulcers, rhabdomyolysis, and neuropathy. Vital signs, level of consciousness, and respiratory status must also be closely observed, especially when the patient is in a prone or semi-prone position, to avoid aspiration or

asphyxiation. When it becomes clinically safe to do so, restraint should be reduced in a stepwise fashion, for example by transitioning from four-point to two-point restraints, typically leaving contralateral arm and leg secured to maintain control while testing readiness for further reduction.[6]

Chemical restraint, or rapid tranquilization, involves the use of pharmacologic agents to manage acute agitation and violent behavior when there is an immediate risk of harm and verbal de-escalation has failed or is insufficient. Antipsychotics and benzodiazepines, alone or in combination, constitute the most frequently used agents and have a long history of clinical use in this context.[7] Chemical sedation offers significant advantages in that it may allow the patient to relax, reduce motor agitation, and decrease the physical struggle that can exacerbate hyperthermia, dehydration, rhabdomyolysis, lactic acidosis, or injury to staff and patients. When used judiciously, it may reduce the need for prolonged physical restraint and support a safer environment for evaluation and treatment.[7] Nevertheless, chemical restraints must be administered with careful attention to dosing, route, and potential adverse effects. Intramuscular administration is often chosen when IV access is not feasible due to agitation. Clinicians must consider the patient's age, comorbidities, concomitant medications, and substance use before selecting a regimen, as agents such as benzodiazepines may cause respiratory depression, particularly in combination with alcohol or opioids, while antipsychotics may prolong QT interval or precipitate extrapyramidal symptoms. Continuous monitoring of airway, breathing, circulation, oxygen saturation, and level of consciousness is therefore essential after administration. As with physical restraint, chemical sedation should be the minimum necessary to achieve behavioral control, with an ongoing effort to reassess the patient's underlying medical and psychiatric condition once calm is restored. Optimal management of violent patients requires an integrated, stepwise approach: prioritizing de-escalation and environmental modifications; resorting to physical or chemical restraints only when strictly necessary; and continuously reassessing the need for these interventions. Throughout the process, respect for patient dignity, robust documentation, adherence to legal and ethical standards, and interprofessional collaboration among clinicians, nurses, mental health professionals, and health security personnel are crucial for safe, humane, and effective care.[6][7]

Differential Diagnosis

A broad, systematic differential diagnosis is essential when evaluating a violent or severely agitated patient, as aggressive behavior is a symptom rather than a diagnosis in itself. Violence may be the final common pathway of diverse underlying conditions ranging from acute metabolic derangements and neurologic catastrophes to intoxication, withdrawal, primary psychiatric disorders, and situational or environmental stressors. A narrow focus on "behavioral" causes alone risks misdiagnosing serious, time-sensitive medical conditions such as hypoglycemia, stroke, or sepsis. Conversely, attributing agitation solely to a medical illness when a primary psychiatric or developmental condition is responsible may delay appropriate mental health intervention. An organized diagnostic framework that considers medical, substance-related, psychiatric, developmental, and situational etiologies is therefore crucial. Medically driven causes of agitation and violence frequently involve disruptions in homeostasis that affect brain function. Electrolyte and metabolic abnormalities are common culprits. Hypoglycemia may present with confusion, disorientation, irritability, and combative behavior before progressing to seizures or loss of consciousness if untreated. Similarly, hyponatremia or hypercalcemia can cause encephalopathy, characterized by fluctuating attention, disorganized thinking, and agitation. Delirium is another key medical cause of violent behavior. It is often precipitated by infections such as urinary tract infections, pneumonia, or sepsis, especially in older adults. Patients with delirium may become acutely confused, hypervigilant, paranoid, or frightened, and may strike out at staff in response to misperceived threats. Neurologic events such as ischemic or hemorrhagic stroke can cause sudden onset behavioral changes if regions involved in impulse control, judgment, or emotional regulation are affected. Other neurologic conditions, including brain tumors, traumatic brain injury, and seizure disorders, particularly in the postictal state, may manifest as confusion, agitation, and aggression. Hypoxia from respiratory compromise—for example, in asthma, chronic obstructive pulmonary disease exacerbations, or pulmonary embolism—can also impair cognition and trigger restlessness and combativeness [6][7].

Endocrine and organ failure–related conditions are equally important. Hyperthyroidism or thyroid storm may amplify adrenergic tone, leading to anxiety, tremor, tachycardia, and marked agitation. Hepatic or uremic encephalopathy impairs detoxification pathways, leading to accumulation of neurotoxic metabolites that alter mental status, attention, and behavior. Patients with such conditions may become aggressive or uncooperative as their capacity to process sensory input and regulate responses deteriorates. Severe, poorly controlled pain—such as from musculoskeletal trauma, fractures, or acute abdominal pathology—also drives irritability and outbursts, particularly if patients feel unheard or inadequately relieved. Medication- and substance-induced states represent another major cluster in the differential diagnosis. Certain medications, including high-dose corticosteroids, can induce mood lability, agitation, or frank psychosis. Anticholinergic drugs can cause anticholinergic delirium, presenting with hallucinations,

disorientation, agitation, and sometimes violent behavior. Sympathomimetic agents such as cocaine, amphetamines, and other stimulants increase catecholamine activity, heightening arousal, paranoia, and impulsivity. Intoxication with alcohol can produce disinhibition and impaired judgment, often lowering the threshold for aggressive acts. Conversely, withdrawal from alcohol or benzodiazepines may precipitate autonomic instability, tremor, agitation, hallucinations, and delirium, culminating in dangerous behaviors if not promptly recognized and treated. Primary psychiatric disorders form a central component of the differential when assessing violent patients. Acute psychosis—whether due to schizophrenia, bipolar disorder, severe depression with psychotic features, or substance-induced psychotic disorders—may lead to paranoid delusions or terrifying hallucinations. In such states, aggressive actions are often motivated by self-defense against perceived threats that are incomprehensible to observers. Mood disorders can also contribute; manic episodes may produce grandiosity, irritability, reduced need for sleep, and pressured activity, with a lower threshold for confrontational or violent responses. Severe depression in some individuals may surface as agitation, restlessness, or self-directed violence, occasionally redirected outward. Personality disorders, especially those with borderline or antisocial traits, can predispose to impulsive aggression in the context of perceived rejection, criticism, or boundary setting. Posttraumatic stress disorder adds another layer, as flashbacks, hyperarousal, and hypervigilance can make patients react violently to benign triggers, misinterpreting them as replays of past trauma [7].

In pediatric and adolescent populations, developmental and behavioral conditions require particular attention. Children and teenagers with autism spectrum disorder may exhibit aggressive outbursts when overwhelmed by sensory input, frustrated by communication difficulties, or confronted with changes to routine. These behaviors are often rooted in distress rather than intent to harm. Attention deficit hyperactivity disorder (ADHD) may contribute to impulsivity and poor frustration tolerance, potentially escalating to physical aggression when limits are enforced or demands exceed coping capacities. Conduct disorder and oppositional defiant disorder are also relevant, as persistent patterns of rule-breaking, defiance, and hostility toward authority figures can manifest as aggression in family, school, or clinical settings. It is essential to distinguish these developmental and behavioral diagnoses from purely situational misbehavior and to assess for coexisting conditions such as learning disabilities, trauma exposure, or mood disorders. Environmental and situational triggers frequently interact with underlying vulnerabilities to precipitate violent episodes. Acute stress, anxiety, fear, or feelings of helplessness—especially in the unfamiliar, high-stimulation environment of an emergency department—can provoke aggressive reactions. Overcrowded waiting rooms, long delays before evaluation, limited communication, language barriers, and perceived neglect can all amplify frustration and anger in patients and their families. In some cases, violence may be a maladaptive attempt to regain a sense of control or to demand attention in the face of overwhelming distress. The clinical setting itself may inadvertently escalate agitation if staff are rushed, communication is brusque, or security measures are perceived as hostile. Because agitation and violent behavior can arise from such diverse causes, clinicians must deliberately avoid premature closure on any single explanation. A comprehensive assessment includes a detailed history, collateral information, medication and substance review, complete physical and neurologic examination, and appropriate laboratory and imaging studies. Screening for delirium, intoxication, withdrawal, acute neurologic pathology, and metabolic or endocrine derangements should precede attributing behavior solely to psychiatric illness. Simultaneously, psychiatric evaluation is needed when medical causes are excluded or when dual pathology is suspected. Recognizing that multiple etiologies may coexist—such as a patient with chronic schizophrenia who is also septic or intoxicated—is critical [6][7]. By systematically considering medical, medication-related, psychiatric, developmental, and situational factors, clinicians can more accurately identify the root contributors to violent behavior. This comprehensive, differential-based approach improves diagnostic precision, guides tailored interventions, and ultimately enhances safety for both patients and healthcare providers [7].

Prognosis

The prognosis of violently agitated patients is closely linked to timely recognition of underlying causes, rapid stabilization, and the safe use of de-escalation and pharmacologic strategies. Patients who present with severe agitation typically fall into high-risk categories, including those with acute medical emergencies, intoxication or withdrawal, or decompensated psychiatric illness. These individuals have an elevated risk of morbidity and mortality, not only from their primary condition but also from complications of uncontrolled agitation, such as rhabdomyolysis, hyperthermia, trauma, and cardiorespiratory compromise.[8] In addition, violent behavior places healthcare workers, other patients, and visitors at considerable risk of injury, and consumes substantial institutional resources. For this reason, effective pharmacologic management is not merely symptomatic but often lifesaving, enabling diagnostic evaluation and definitive treatment to

proceed in a controlled and safe environment.[8] When patients are cooperative enough to accept oral therapy, outcomes are generally more favorable, as the need for physical restraint and parenteral sedation may be avoided. Oral benzodiazepines such as lorazepam in doses of 1 to 2 mg and orally disintegrating antipsychotic formulations, including risperidone 1 to 2 mg or olanzapine 5 to 10 mg, can provide reliable calming with a relatively predictable onset.[9] In pregnant patients, diphenhydramine is often preferred due to its safety profile. Second-generation (atypical) antipsychotics, when used appropriately, tend to offer a more "tranquilizing" effect rather than deep sedation and are associated with a lower incidence of extrapyramidal symptoms (EPS) because of their serotonergic as well as dopaminergic receptor activity.[9] For many patients with moderate agitation, this approach allows symptom control while preserving the ability to engage in history taking and shared decision-making, which in turn improves diagnostic accuracy and long-term adherence to treatment [8][9].

In patients who are severely agitated, violent, or medically undifferentiated, more rapid and robust control of behavior is often needed to prevent immediate harm. In these scenarios, intramuscular (IM) combination regimens have historically been used. One of the most common combinations is colloquially termed "B52," consisting of haloperidol 5 mg IM, lorazepam 2 mg IM, and often 50 mg of intravenous diphenhydramine.[9] The theoretical advantages of this regimen include synergistic calming: haloperidol reduces dopaminergic activity, while lorazepam enhances γ-aminobutyric acid (GABA)–mediated inhibitory neurotransmission, typically yielding substantial reduction in agitation within about 30 minutes. Diphenhydramine or benztropine has traditionally been included to mitigate the risk of EPS. However, this combination is not without drawbacks. Adverse effects can include excessive sedation in older adults, delayed onset compared with some alternatives, QT interval prolongation, gait instability and ataxia, EPS, and cumulative central nervous system depression, particularly in patients with polypharmacy or co-intoxication.[9] Droperidol, once widely used for emergency department sedation, was largely abandoned after the 2001 U.S. Food and Drug Administration (FDA) black box warning for QT prolongation and risk of fatal arrhythmias.[10] Subsequent retrospective analyses, however, have not shown a clear excess in morbidity or mortality when droperidol is used in controlled doses, even in highly intoxicated patients, and have suggested that droperidol may offer a faster onset, shorter duration, and more reproducible effect compared with haloperidol.[11][12] Where permitted by local policy, judicious droperidol use under appropriate monitoring can therefore provide a valuable option, with a prognostic benefit in terms of rapidly securing behavioral control and enabling earlier diagnosis and treatment [10][11][12].

Second-generation antipsychotics such as risperidone, olanzapine, quetiapine, and ziprasidone continue to gain prominence in the management of agitation, partly because they tend to produce calming rather than deep sedation, and show reduced rates of EPS.[9] According to the 2023 ACEP guidance, favored first-line pharmacologic options for undifferentiated violent patients include IM haloperidol 5 mg with lorazepam 2 mg, or monotherapy with IM ziprasidone 20 mg or IM olanzapine 10 mg.[9] Nonetheless, each agent carries prognostic implications tied to its safety profile. Ziprasidone is associated with a greater degree of QTc prolongation than other atypical antipsychotics, which necessitates caution, particularly in patients with known cardiac disease, electrolyte disturbances, or concurrent QT-prolonging medications. Its formal FDA approval is limited to schizophrenia and bipolar mania, so off-label emergency use must be carefully justified.[9] Olanzapine frequently causes mild hypotension and possesses substantial anticholinergic activity; in patients who have ingested anticholinergic agents such as diphenhydramine, olanzapine may paradoxically worsen agitation or delirium. In addition, olanzapine can have synergistic depressant effects when combined with benzodiazepines or in patients who are heavily intoxicated with alcohol or other sedatives, increasing the risk of respiratory depression.[9] Thus, while these drugs can significantly improve control of agitation and overall prognosis when used correctly, their risk profiles must be thoughtfully matched to the patient's clinical status. Ketamine has emerged as a particularly important option in the management of extreme agitation due to its rapid onset, predictable dissociative effect, and familiarity among emergency physicians. In low doses (0.1–0.3 mg/kg intravenously), ketamine is used for analgesia; at higher doses (around 1 mg/kg intravenously or 3–5 mg/kg intramuscularly), it provides dissociative sedation suitable for severe agitation or procedural sedation, and approximately 2 mg/kg intravenously is used for intubation induction.[13][14][15] Following intravenous administration, sedation typically occurs within 1 to 2 minutes; with intramuscular administration, onset generally occurs within 2 to 10 minutes. Compared with more traditional antipsychotic- or benzodiazepine-based regimens, ketamine often results in faster and more reliable behavioral control after a single dose, which can be critical in situations where the patient is uncontrollably violent or poses imminent danger to self or others.[13][14][15][16][17]

However, ketamine's prognostic benefits must be weighed against its potential complications. Known adverse effects include laryngospasm in approximately 1% to 4% of cases, hypersalivation in up to 20%, respiratory depression in 2% to 20%, and

a highly variable need for intubation reported between 0% and 62% across studies.[13][14][15][16][17] These figures underscore the necessity for close monitoring of airway patency, oxygenation, and hemodynamic status following administration. Moreover, the emergence phenomenon—transient dysphoria or hallucinations upon recovery—can occur, though it is usually manageable with reassurance or small doses of benzodiazepines. The 2023 ACEP policy statement supports ketamine as a viable sedative for severely agitated patients in the emergency department, emphasizing that emergency physicians are well positioned to anticipate and manage these complications.[17] When used in appropriate settings with full resuscitative capability, ketamine can shorten the duration of uncontrolled agitation, reduce physical struggle, and allow earlier definitive management, all of which improve overall outcomes. Ultimately, the prognosis for violent or severely agitated patients is determined by how quickly and safely behavior is controlled, how accurately the underlying cause is identified, and how effectively that cause is treated. Rapid but thoughtful pharmacologic intervention—built on a foundation of de-escalation, careful drug selection, adherence to guidelines, and vigilant post-sedation monitoring—can substantially reduce the risk of injury, metabolic and neurologic complications, and death. Conversely, delayed or inappropriate management, oversedation without monitoring, or excessive reliance on physical restraints without addressing the underlying disease worsens outcomes. A favorable prognosis is most likely when care is delivered by an interprofessional team that integrates emergency medicine, psychiatry, nursing, pharmacy, and security, applying both clinical expertise and structured protocols to balance patient autonomy, safety, and therapeutic necessity.[8][9][10][11][12][13][14][15][16][17]

Complications

The management of violent or severely agitated patients carries an inherent risk of complications related both to the underlying condition and to the interventions used to control behavior. Pharmacologic sedation, while often necessary, must be applied judiciously, particularly in vulnerable populations such as older adults and patients with dementia or delirium. These individuals are especially susceptible to adverse effects from antipsychotics and benzodiazepines, including oversedation, respiratory depression, worsening confusion, falls, aspiration, and prolonged delirium. For this reason, when such medications are required, dosing should generally be reduced to approximately 25% to 50% of standard adult doses, with close monitoring of cardiorespiratory and neurologic status.[18] Certain antipsychotic agents pose specific risks in patients with cognitive disorders. Drugs such as olanzapine and ziprasidone have been associated with an increased risk of cerebrovascular events and all-cause mortality in individuals with dementia.[19][20] In this group, antipsychotic use should be reserved for situations in which nonpharmacologic interventions have failed and the patient poses an immediate risk to self or others. Even then, treatment should be time-limited, regularly re-evaluated, and clearly documented, with efforts to taper and discontinue when clinically feasible. Beyond pharmacologic complications, physical restraints can contribute to injury, including bruising, nerve compression, rhabdomyolysis, pressure ulcers, and even positional asphyxia if not properly applied and monitored. Psychological sequelae such as fear, mistrust, retraumatization, and reduced engagement with future care are also significant concerns. Staff can be affected as well, experiencing moral distress, burnout, and emotional fatigue from recurrent exposure to violence and coercive interventions. Inadequate assessment of underlying medical or psychiatric causes may delay definitive treatment, leading to deterioration, prolonged hospitalization, or repeated episodes of agitation. Thus, safe management of violent patients requires careful balancing of the immediate need to prevent harm against the potential short- and long-term complications of sedative medications, restraints, and environmental control measures [18].

Patient Education

Deterrence of violent behavior in healthcare settings begins well before a crisis occurs and is grounded in communication, respect, and patient-centered care. Engaging patients and their families as active partners in the care process is a powerful preventive strategy. When patients feel heard, informed, and respected, their sense of control and trust increases, which can significantly reduce fear, frustration, and anger—common precursors to agitation and aggression. Taking time to explain diagnoses, procedures, expected wait times, and potential side effects of treatments helps set realistic expectations and prevents misunderstandings that might otherwise escalate. Education should be tailored to the patient's level of health literacy, language, and cognitive status. For families and caregivers, guidance on how to support the patient—such as helping with orientation, offering reassurance, and alerting staff early when behavior begins to change—can be invaluable. In individuals with known psychiatric or neurologic conditions, advance discussions about early warning signs of agitation and preferred calming strategies (for example, quiet space, specific communication approaches, or early PRN medication) can be integrated into care plans and communicated across shifts. Clear communication is particularly critical in high-stress environments such as emergency departments or mental health units, where overcrowding, long waits, and uncertainty are

common. Staff should strive to provide frequent updates, even if only to acknowledge delays and reassure patients that their concerns are recognized. Simple acts—introducing oneself by name, asking permission before touching, and explaining what is happening—can significantly modify the emotional tone of an encounter. Patient and family education also includes discussing the reasons for safety measures if they become necessary, such as the use of observation, security presence, or, in rare cases, restraints or sedation. When individuals understand that these interventions are implemented to prevent harm rather than to punish or control them arbitrarily, they are more likely to accept care and less likely to develop adversarial attitudes. In this way, deterrence and education become integral parts of a proactive, relationship-based approach to preventing violence and supporting de-escalation [18].

Other Issues

Effective management of violent behavior in healthcare settings extends beyond individual clinical encounters and is strongly influenced by the physical and organizational environment. Guidelines on preventing workplace violence emphasize that environmental design can either mitigate or amplify the risk of aggression. Practical modifications include controlled access to clinical areas, secure entry and exit points, and the strategic placement of reception desks and nursing stations to ensure visibility while preserving staff safety. Adequate lighting, clear signage, and comfortable, uncluttered waiting areas help reduce anxiety and confusion, especially for distressed or cognitively impaired patients. Removing or securing items that could be used as weapons—such as loose furniture, metal stands, unsecured equipment, and sharps—is essential in high-risk zones like emergency departments, psychiatric units, and triage areas. The installation of alarm systems, panic buttons, and surveillance cameras provides staff with rapid access to assistance and offers a deterrent effect. These measures must be paired with policies that ensure alarms are responded to promptly and that staff are confident in using them without fear of stigma or reprisal. At the organizational level, staffing patterns and workflows are critical. Ensuring adequate staffing ratios decreases delays, improves communication, and minimizes frustration for patients and families. Working alone, especially during night shifts or in remote areas of the facility, should be avoided whenever possible, particularly when dealing with high-risk patients. Routine circulation of information about individuals with a history of violence—within appropriate privacy and legal limits—allows teams to anticipate risk and implement tailored precautionary measures. Open communication and a culture that encourages incident reporting are essential "pearls" often overlooked. Staff should feel safe to report threats, near-misses, and actual assaults without fear of blame. These reports provide valuable data for identifying patterns, vulnerable spaces, and systemic gaps that can be addressed through targeted training, environmental changes, or policy revisions. Ultimately, preventing and managing violence is not solely the responsibility of individual clinicians or security officers; it is an institutional responsibility that requires coordinated design, planning, and support at all levels [18][20].

Enhancing Healthcare Team Outcomes

Improving outcomes for both violent patients and the healthcare teams who care for them requires a comprehensive, interprofessional strategy. At the core is a commitment to safety, communication, and respect. Training programs focusing on de-escalation techniques—such as active listening, calm verbal engagement, non-threatening body language, and structured limit-setting—equip staff with practical tools to manage agitation before it escalates. Role-play, simulation-based exercises, and regular refreshers help maintain skill proficiency and confidence, especially in frontline staff such as nurses, health assistants, and security personnel. Clinical outcomes are optimized when teams move beyond symptom control and actively seek the underlying causes of aggression. Systematic evaluation for medical conditions (e.g., delirium, intoxication, hypoxia, metabolic derangements), psychiatric disorders, and substance-related states ensures that treatment addresses root pathology rather than simply suppressing behavior. When necessary, the judicious use of pharmacologic agents and, in rare cases, physical restraint should be guided by evidence-based protocols, with continuous reassessment and an explicit intent to return to the least restrictive measures as soon as possible. Environmental adjustments also contribute significantly to team and patient outcomes. Reducing noise, avoiding overcrowding, ensuring adequate seating, and providing designated quiet or "de-escalation" rooms can lower baseline stress levels and decrease the likelihood of violent episodes. After critical incidents, staff benefit from structured debriefing, emotional support, and access to mental health resources. Such measures reduce burnout, secondary trauma, and staff turnover, thereby strengthening the overall resilience and capacity of the healthcare team. Institutional policies should clearly define procedures for managing violent behavior, including activation of security, indications for restraints and sedation, documentation requirements, and pathways for psychiatric consultation. These policies must emphasize respect for patient rights and encourage transparent communication and incident reporting. Involving patients and families in care decisions—where feasible—adds another layer of protection, reducing miscommunication and encouraging shared understanding of treatment plans. Finally, systematic tracking of violent incidents through centralized reporting systems enables continuous quality

improvement. By analyzing trends, identifying high-risk settings or times, and reviewing the effectiveness of interventions, healthcare organizations can refine protocols, adjust staffing or environmental design, and update training priorities. Through this iterative process, and by fostering a culture that values safety, teamwork, and learning, healthcare systems can significantly improve outcomes for violent or agitated patients while protecting the physical and psychological well-being of staff and other patients [18][19][20].

Conclusion:

In conclusion, the management of violent patients in healthcare is a complex but essential competency that demands a structured, evidence-based, and compassionate approach. The primary goal is to ensure safety while diagnosing and treating the underlying cause of aggression. A tiered strategy is paramount: beginning with prevention through environmental controls and staff training, progressing to verbal de-escalation as the first-line intervention, and resorting to pharmacological sedation or physical restraint only when necessary to prevent imminent harm. Pharmacological choices must be tailored to the patient's clinical status, with careful consideration of risks and monitoring for complications. Critically, these interventions are not endpoints but means to facilitate a thorough medical and psychiatric evaluation. Ultimately, optimal outcomes are achieved through robust interprofessional collaboration, clear institutional protocols, and a sustained organizational commitment to a culture of safety that supports both the well-being of staff and the dignified care of patients in crisis.

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