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Chapter

Emergency Department Restraint Safety

Abby White and Christopher Kustera

Abstract

Restraint use during patient care is a serious and important safety topic because it is often utilized in high stress, rapidly evolving, and unique situations in which patients not only pose harm to themselves, but harm to others. The scope of patient safety topic is a threefold approach: initiation, maintenance, and discontinuation. First, a briefly literature pertaining to evidence-based criteria for the initiation of patient restraints will be constructed. Secondly, restraint types and the resources required to maintain restraints will be explicated. Finally, the chapter will conclude with patient evaluation methods pertaining to the safe discontinuation of restraints and resource de-escalation. A succinct, pragmatic discussion on restraint utilization a method that mitigates a patient's threat to themselves and others – will be presented in this manuscript.

Keywords: restraints, patient safety, health provider safety, hospital staff safety, agitation, resource management

1. Introduction

Restraint use during patient care is a serious and important safety topic because restraints are often utilized in high stress, rapidly evolving, and unique situations where patients may pose harm to themselves and others. There are a panoply of reasons for the initiation and maintenance of physical and chemical restraints that can range from the protection of patients from self-extubation in the ICU [1] to the prevention of bodily harm and property damage during acute behavioral disturbances (ABDs) in the emergency department (ED) [2–6]. Current restraint literature contains a wide range of studies with varying levels of evidence. Due to this wide range of studies, the proper time to use restraints, the most effective types of restraints, and the proper management of agitated patients is an area of continual research. However, a troubling trend is present upon review of restraint literature – patient aggression in the healthcare sector is increasing [2, 7–13].

An increase in patient aggression is correlated with increased staff turnover and increased "burnout" in EDs [2, 8]. When evaluating United States ED visits, agitation incidence was reported at 2.6% of all visits [14]. A provider must have a plan to address and manage the agitated patient. Therefore, issues regarding restraint utilization are a commonplace challenge in the ED given the wide range and continual change in patient populations [5, 15, 16]. However, why are agitated and violent

presentations so prevalent and trending upward? This manuscript will discuss two major factors pertinent to this restraint utilization question.

First, patients commonly access the ED pragmatically to receive *rapid* medical attention as opposed to *emergent* medical care [13]. The twenty-four hour availability of medical attention in the ED has led to increasing ED visits. There is often a disconnect between the expectations of patients-families when compared to health care professional expectations [13]. This cognitive disconnect can develop an environment ripe for "misunderstanding and conflict" [13]. Within a setting of high patient volumes, cramped working areas, mental fatigue, and insufficient administrative support, the addition of areas ripe for misunderstanding place further stress on an already stressed system. Considering this combination of potential patient-provider disconnect and a milieu of onerous situational variables, an already depleted health care workforce continues to suffer from decreased staffing numbers and dangerous lack of resource availability [11, 13]. It is imperative that health care providers have plans and resources in place in order to address situations that could involve violence, assault, and aggression.

Secondly, the increasing prevalence of psychiatric patients with acute behavioral needs provides an increasing level of complexity to the ED workflow. The World Health Organization (WHO) lists psychiatric disorders as "a major impact on health, society, human rights, and economy" while attributing 14% of global disease burden to psychiatric disorders [13]. Psychiatric patients also possess a higher frequency of ED utilization when compared to non-psychiatric patients [9, 13]. Additionally, one of the main reasons for a patient with psychiatric needs to pursue medical attention is violent behavior and incidence of violent behavior is higher in this increased in this population [13]. Therefore, the ED is often a setting where management of acute psychiatric needs are acutely addressed at times of crisis [17]. These acutely agitated patients require additional considerations and resources from staff to address de-escalation, chemical sedation, prevention of elopement, and violence [13]. In a high speed environment with rapid care, health care professionals express difficulty assessing and addressing the needs of this patient population [13]. This challenging communication difficulty provides yet another area for potential development of violent behavior. Naturally, the discussion of restraint use is more frequent in this dangerous setting.

The cumulative effect of incongruence between staff and patient expectations, the utilization of the ED as a primary source of acute behavioral health crisis evaluation, and increasing ABDs makes the ED rife for conflict and agitation. This scenario begets a need for a streamlined processes to provide safety measures for both patients and staff. Restraints are an important but high-risk tool in the management of the agitated patient. Providers must consider the use of this intervention alongside potential complications much like any procedure or medicine. Therefore, both the patient and health care professional perspectives must be considered when contemplating the risks of restraint initiation.

From the perspective of the patients, it is important to consider the risks and factors that lead up to the consideration of restraint initiation. Patient perception and experience in the ED when restraints have been utilized have been studied, and the utilization of restraints has been shown to cause lasting emotional damage to the patient despite a focus on the patient's best interests [9, 14]. This damage can impact the course of their medical care. The therapeutic alliance is often based on the establishment of rapport, a task that is often daunting given the dynamic nature of ED interactions and the challenges of first-time patient introductions. In addition,

commonly reported adverse events associated with restraint use are prolonged physical injuries and cardiac events [14].

Verbal de-escalation is an effective mitigating technique, but the ED environment is a challenging setting that may hamper its effectiveness. It is difficult to gain insight to a patient's wants, desires, and goals in the setting of agitation which only further impairs the utilization of verbal de-escalation techniques [14]. With the potential mitigation of verbal de-escalation techniques, difficulty at establishing a de novo therapeutic alliance, and potential adverse reactions to restraints, patients have expressed feeling of coercion and entrapment when restraints are employed [14, 17–20]. While several barriers to de-escalation exist in the ED, frequent failed attempts at de-escalation and increased ED ABDs leads to challenging encounters and the likelihood of restraint placement.

From the perspective of the health care professionals, patient and staff safety is the ultimate goal. This goal can be difficult to obtain. The occurrence of ABDs not only impacts patient's health and management but impacts the health and safety of the staff providing care. A UK study reported that greater than 30% of health care providers reported assault while working with patients in the ED [2]. This number is likely to be grossly underestimated given the total high prevalence of underreporting [2]. The ED has been reported to be one of a medical settings with the "highest risk" of harm [11]. Rates of aggression and assault have been noted to be skewed towards nurses and health-care assistants when compared to all ED personnel [3, 11–13, 21].

2. Methods

A comprehensive literature search was conducted for the creation of this manuscript. Internet-based search platforms used during the preparation of this manuscript included PubMed Central and Scopus. Search terms were: "restraints", "physical restraints", "chemical restraints", "agitation", "emergency departments AND restraints", and "emergency departments AND aggression". Summation of search results totaled 298,534 manuscripts. The references were then limited to publications within the last twenty years. Upon review of this subsect of search results, the reference list was narrowed to 100 documents. These 100 documents were assessed on their relevance to restraint utilization in the ED. These 100 were then assessed on how closely the documents evaluated the management of acutely agitated patients with regards to restraint initiation, management, and discontinuation in the ED. After this final screening, 37 sources were utilized for the construction of this manuscript.

3. Pre-initiation considerations regarding patient restraints

When considering the initiation of patient restraints, the goal is always to control the situation without the initiation of restraints. Many variables and factors can be involved in the situations that precede and evolve into ABDs. These variables can include environmental/architectural factors, hospital policy factors, and practice-based interventions. Most broadly, these variables reside within two major buckets of consideration: proactive vs. reactive measures [11]. This section will parse common listed proactive and reactive measures that can provide potential areas of conflict mitigation to limit or eliminate the need for restraints.

Proactive approaches are important interventions that can potentially stop ABDs before they occur. The literature lists many examples, but they are often discussed in the context of weak to moderate evidence [2, 11, 22]. Although there are many efforts to stop ABDs, no single proactive measure has been able to definitively address ABDs [2, 11]. Without one agreed effective measure, it is then important to review multiple common interventions that are frequently discussed in the literature.

One proactive measure is providing maximum patient visibility in scenarios that include potentially agitated patients [11]. Increased patient visibility by providers can be achieved from a host of interventions. Closed circuit TV (CCTV) and reinforced glassed areas are two common architectural interventions that aid in maximizing visibility. The utilization of increased visibility allows providers to more rapidly identify situations where patients could become agitated (pacing, aggressive verbalizations, responding to inappropriate stimuli, etc.). This could help providers intervene earlier and assess patient needs before the situation evolves to a situation where restraints could be needed. This visibility can also be augmented through the utilization of alarm systems which provide an environmental tool for the management and assessment of patients by providing indications for those who are potentially ambulating or disregarding reorientation methods by staff.

Designated evaluation spaces are another proactive approach towards mitigation and minimization of ABDs. These rooms have been referred to as safe rooms, seclusion areas, and low stimulus environments [2, 11]. They provide modifiable and controllable environments that remove agents that increase agitation, help foster a therapeutic alliance, and increase rapport with patients. In accordance with multiple sources that also include the National Institutes for Care and Excellence (NICE) criteria, there are recommendations regarding the layout of the room that will help with health assessment interviews [2, 11, 23]. The rooms should be as close as possible to the receiving area of the ED [2, 11, 23]. Spacing should also accommodate up to six people and be fitted with technology and windows that help with the ability to observe individuals [2, 11, 23]. This area should also contain furnishing that are soft, be well-ventilated, and contain no items that could be potential utilized as a potential weapon [2, 11, 23]. With some of these variables established, the rooms provide an area that can both mitigate and anticipate of situations involving agitation.

From the purview of practice-based interventions, the utilization of targeted triage screening scales that have been utilized in Psychiatric care have yet to be widely adopted in the ED setting. These triage tools have been identified as a potential area of practice-based intervention [17]. For example, screening questionnaires for proper triaging of individuals experiencing psychosis have been validate in the inpatient settings, but a standardized screening tool regarding psychosis has not been validated in an ED setting [17]. These tools may better identify organic causes of agitation. If one can identify a primary psychiatric cause of agitation as opposed to substance intoxication, better patient triage can prevent escalation to restraint application and provide a clearer view of the incidence and prevalence of ABD presentations in the ED.

Policy interventions targeted towards patient perceptions and timely dissemination of information have also been noted to help mitigate patient agitation occurrences while also improving reported patient experiences [9]. For example, one area of negative patient experience is the perception of "judgmental attitudes" by either staff, EMS, or police present during evaluation [9]. Policy interventions that inform groups of their impact on patient experience are areas that could eliminate behaviors that negatively shape patient agitation. Long wait times also provide situations in which individuals become more agitated. This agitation is alleviated when patients

were provided with timely support and information on wait times [2, 11]. Patients also express "vulnerability" and "overstimulation" when ABDs are recorded, so providing areas of privacy and personal space have also been associated with significant improvements to patient reported outcomes and agitation occurrence [9, 14]. Patients express that the use of seclusion and restraint were also mitigated when an advocate who could explain interventions and evaluations was present. These are a sample of policy interventions that can be proactively enacted to mitigate scenarios in which feelings of agitation or aggression could flourish [9].

An additional proactive measure is the implementation of training programs for staff. These training programs can help better train providers in verbal de-escalation techniques and evaluation methods. These training programs have been evaluated to increase provider confidence in addressing ABDs [2, 11]. The number, quality, and names of training programs are too varied and extensive to innumerate within this chapter, so general principles of these programs will be discussed instead. The core competencies of workplace policy knowledge, behavioral theories and aggression etiologies, identification of high risk scenarios, assertiveness, and communication techniques are central to these training programs [11]. Although these programs were associated with increased in ABD interaction confidence, it is important not to conflate confidence with efficaciousness when dealing with ABDs [11]. These training programs do provide another avenue of implementation of tools to help health care professionals with identification of agitation in a quick and efficient way and provide another layer of conflict resolution that can possibly reduce occurrence of ABDs.

Secondly, consider more reactive approaches. These approaches include mobilization of designated teams with the expressed intent of mitigating or addressing the concerns of the agitated patient [11, 19, 24–26]. These resources contain many institution specific naming conventions and personnel classifications that would be outside of the ability of this chapter to fully enumerate, but there are generalizable concepts that occur across these teams. These teams consist of multi-disciplinary teams from a host of backgrounds – administration, security, and nursing to name a few. These teams have designated roles that range from interaction with the patient, interaction with bystanders, interaction with the environment, and interaction with medications and tools. With a clear division of labor and rehearsed practice in these roles, these teams help to specifically address unique clinical scenarios and best mitigate ABDs short of needing to escalate the level of care [2, 11].

The mobilization of security or law enforcement personnel is another resource providers can mobilize during ABDs. It is important to foster relationships with these personnel as they can be invaluable in providing support to mitigate aggressive behavior. However, it is important to note that the presence of law enforcement or security can potentially be a "double-edged sword." For acutely agitated patients, the presence of these support individuals can provide a negative stimulus and may strain the therapeutic alliance if they have had negative interactions with these personnel in the past [20, 27]. Evaluate each patient's situation with regards to each patient's personal history and presenting complaints.

A trained crisis worker or psychiatric emergency services (PES) is an additional area of support and reactive mitigating approaches [17]. These providers have training in acute management and mitigation techniques that are targeted to address agitation secondary to psychiatric disturbances. A variety of techniques, agitation scoring systems, and clinical triaging tools are present and discussed in the psychiatric literature which allows providers to assess developing and established situations [4, 18, 19, 21, 28–30]. These providers can provide additional support and techniques to properly engage with the patient, better assess the source of their agitation, and provide recommendations on further therapy or medication. However, it is important to note that these clinical tools and evaluation techniques are not always validated or easily applicable to the ED setting when compared to inpatient hospital settings. Additionally, not all EDs have access to these providers, and these providers are rarely available twenty-four hours a day. However when present, the utilization of counselors trained in emergency psychiatric services and evaluation reduces the use of restraint and seclusion in cases of psychosis while bolstering a therapeutic alliance [17].

4. Initiation of patient restraints

When environmental/architectural, procedural, and practice-based interventions have been inadequate in staving off agitation and the individual in question has become combative and a threat to staff and self, it is then time to escalate care to the utilization of restraints. Much like the previous section, restraints can be divided into multiple categories: chemical, physical, environmental, and seclusion [22]. Although both chemical and physical restraint are far more commonly discussed in the literature, the utilization of seclusion and the environment as restraint are also important to discuss. Environmental restraint is predominantly the utilization of the items such as fences, walls, doors, and barriers to prevent movement freely throughout a building, department, or area. Seclusion is a further escalation of environmental restraint to where the person is isolated or restrained into an environment that also prevents free movement.

A frequently cited guideline, the NICE Guidelines, from the NHS of England is an extensive advisory publication to assist with staff training and implementation of both chemical and mechanical restraints in ABDs in the setting of mental health problems [23]. This guideline may also be relevant to those who do not have diagnosed mental health pathology [23]. The guidelines are targeted "for adults older than 18, children younger than 12, and ages 13-17 with a mental health problem who are currently within mental health, health, and community settings".

It is important to utilize pre-initiation measurements to mitigate or reduce occurrence of agitation. The implementation of chemical restraint (rapid tranquillization), physical restraints, and seclusion should only be considered after de-escalation strategies are attempted and are unsuccessful [31]. There is no strong evidence concerning the efficacy of these three interventions in ABDs, but the following description of restraint application and monitoring is formulated in the setting of best available data [31]. De-escalation techniques should also be continually employed during this process as they are used in conjunction with other interventions. Continual use of deescalation techniques throughout the process of restraint will help facilitate restraint placement and minimize agitation [23, 31].

Chemical restraints can be administered intramuscularly (IM) or intravenously (IV) when oral medication is unavailable or not a feasible option when the patient's agitation needs to be treated rapidly. In accordance with the algorithms noted in the NICE Guidelines, some of the most commonly used therapies for ABD is IM Lorazepam alone or the combination of IM haloperidol and promethazine [23]. However, the available options and combinations are numerous and ever growing. Broadly, the available chemical restraints can be categorized into first-generation antipsychotics, second-generation antipsychotics, benzodiazepines, and other [7].

The first-generation antipsychotics (typical) block dopamine receptors in the central nervous system. This class of medication can be further divided into high and

low potency agents [7]. The high potency agents include: fluphenazine, haloperidol, loxapine, perphenazine, pimozide, thiothixene and trifluoperazine [7]. The low potency agents consist of chlorpromazine and thioridazine. These medications are effective but carry the risk of extrapyramidal syndromes (EPS) more commonly noted in the high-potency agents [7].

The second-generation antipsychotics (atypical) partially block dopamine and serotonin receptors. These medications, in comparison to first generation agents, have decreased rates of EPS, hyperprolactinemia, and movement disorders [7]. Despite this improved side effective profile, these medications are not without limitations. Prolonged use of these medication are associated with hyperglycemia and dyslipidemia as well as increased risk of cardiovascular disease [7]. The common agents within this group of medications are risperidone, olanzapine, quetiapine, ziprasidone, and aripiprazole.

The benzodiazepines are another class of medications that possess rapid anxiolytic and sedative properties. They also possess potential side effects of respiratory depression, hyper-salvia, and ataxia [7]. The most commonly used benzodiazepines are lorazepam, diazepam and midazolam.

Several other medications have been found to be effective in inducing sedation. Promethazine, an antihistamine, has been shown to be effective when utilized in combination with haloperidol. The combination of haloperidol-promethazine is the recommended first line medications of for rapid tranquilization in ABDs if no contraindications are present [23]. The purported mechanism of action for this drug mixture is to speed both the sedative and antimuscarinic effects of promethazine [7].

Although these various medication categories are commonly used in the ED for chemical restraint, providers must account for the patient's past medical history, possible intoxication, and interaction with other medications as well as total dose of daily medications. For example, Haloperidol-Promethazine or other QT prolonging medications should not be given to patients with prolonged QT intervals on ECG [7]. Medications should also be ordered as single doses as opposed to PRN to avoid inadvertent administrations and to ensure that appropriate response to medications is obtained.

If chemical restraint measures fail, care may be escalated to the use of physical restraints. Physical restraints are the next and often final option employed by available staff. Physical restraint can refer to two main categories: manual restraints in which the patient's body is held by other people or the utilization of devices and appliances. Both types of physical restraints are meant to assist the patient by preventing bodily harm to themselves or others.

The initiation of physical restraints can be conducted in a variety of manners. Traditionally, the camisole or straight jacket was used as a primary physical restraint [7]. Another option is to fasten the patient to a chair often referred to as ambulatory restraint [7]. However, 4- and 5-point restraints are most frequently used in the modern ED and will be the focus of this chapter's discussion of physical restraint. The four "points" of this restraint methods refer to the immobilization of both hands and both feet. 5-point restraint includes the previously mentioned four points with the addition of the chest. The mobility limiting agents are often leather and cloth straps with soft padding where they meet the skin to minimize the occurrence of skin breakdown or trauma. A principle of "only as necessary" should be employed with regards to restraint is no longer needed. A host of factors should be considered in the sequence of applying restraints and continuous monitoring is imperative. As with all procedures in the ED, proper management of the airway, breathing, and circulation is paramount during the application of physical restraints. The team leader should remain at the head of the bed while providing support and stabilization to the head and neck when appropriate [31]. This team member should direct the group in order that airway and breathing compromise can be evaluated and/or prevented during the process of restraint application. Vital signs should be continually monitored during this process to assess for acute decompensation or need for further medical intervention during the application of restraints.

The team leader is required to provide support and stabilization to the head as restraint application can have high morbidity and mortality including the potential for positional asphyxia [32]. Reduction in breathing is noted to occur less often when the patient was in supine positioning compared to prone [32]. The team leader should make sure to convey to the team that the patient should remain in the supine position during application of physical restraints [32]. Special consideration should be given to patients with pre-existing medical conditions (namely cardiac and respiratory disease) or also have been prescribed high-dose antipsychotics [32].

If restraints are being applied, one should employ an "all-or-none" philosophy to the restraint devices. Regarding either 4- or 5-point restraints, the team should apply all restraints to the patient. The freedom of one or multiple limbs can present a situation in which the patient can harm themselves, harm the staff, or damage the environment in which they are receiving care. To limit kicking and thrashing while in restraints, staff can employ a cross anchoring pattern with respect to the lower extremities. Staff can fasten the right leg to the left corner of the bed and the left leg to the right corner of the bed. Note that the patient should be maintained in the supine position during this fastening for minimization of risks discussed above. The devices for restraint should be attached to areas of the bed that move freely with bed repositioning (namely elevation of the head of the bed) [33].

During the process of restraint application, it is imperative to remember that the team is still providing care to an individual. Healthcare providers should make reasonable attempts to maintain patient privacy and mitigate humiliating factors. These factors should be considered when the intervention is occurring, and maintenance of dignity and privacy should be accommodated when possible. The level of applied force should be appropriate and proportional to the situation unfolding before health care professionals. Force should only be applied for the minimum amount of time that it is required. Although the situations are often fluid and rapidly evolving, care should be taken to minimize painful techniques. Although pain has no therapeutic role, it may be used when immediate danger or harm to health care professionals and staff is present. It is never the goal to enact a painful stimulus to a patient, however under certain circumstances it may be necessary for the defense and preservation of ED individual safety.

Following the conclusion of restraints, it is important for the team to be lead in a post-incident debrief and review of the ABD. The debrief provides an opportunity to review the factors leading up to the event, the performance of the team during the event, and areas for improvement. This debrief provides a forum to identify and evaluate potential risks, to address physical harms to staff, and evaluate the emotional impact to staff and bystanders. This debrief allows bystanders to discuss and process the events that occurred. It also gives active members an opportunity to discuss with non-active staff. Debrief engenders an area of safety, relaxation, and a return to previous activities and tasks [7, 31].

5. Restraint maintenance

After the decision to initiate patient restraint, the choice of restrain has been agreed upon, and the patient has been adequately secured, documentation and reassessments are the hallmark components of physical restrain maintenance. Restraint documentation frequency has been cited with intervals ranging from 15 minutes to hourly [5, 7, 31, 33–36]. These time frames are constructed with the intention of prompting frequent reassessments with the desired goal of termination of restraint utilization as soon as possible.

It is paramount that after administration of restraints (both chemical or physical), the patient's vital signs, hydration, and mental status are documented. Documentation should also include the need for continued restraint utilization, failed alternatives that resulted in the initiation of physical restraint, number of limbs restrained, the type of restraint utilized, the time of application, the mental status of the patient (orientation, fear, anger, and aggression before, during, and after restraint), the patient's response to restraint, and the presence/occurrence of any injuries during or after restraint [33]. The patient should also be continually observed if they appear asleep/sedated, have other illicit substance onboard, have a concerning past medical history, or have experienced harm because of the intervention [33].

For patients that are chemically restrained, care should be taken to reassess the patient after each dose of medication. PRN orders should be avoided to prevent oversedation and cumulative effects of medication administration as mentioned in the previous sections. PRN ordering schemes can potentially limit the ability of providers to assess levels of agitation correctly while potentially masking other complications hidden under the guise of sedation.

For those patients that are physically restrained, care should be taken to the areas of restraint fastening. These devices should be unlocked and unfastened one at a time in a sequential order to evaluate for skin break down or extremity trauma secondary to the restraint application. The patient should be able to move and range the extremity every two hours [33]. A detailed examination and evaluation of neurovascular status of this extremity should be performed in conjunction with this extremity assessment while restraints are in place [7, 33].

Physical examination of the patient during reassessment should focus on core areas that include but are not limited to the following systems: respiratory, cardiovascular, integumentary, and nervous. Respiratory evaluation should include comments on respiratory rate, work of breathing, airway patency, and respiratory rhythm. Cardiovascular evaluation should document heart rate and rhythm, presence and palpation of distal pulses, and capillary refill. Integumentary evaluation should comment on skin color, temperature, presence of wounds, or presence of edema. Nervous system documentation should portray the patient's orientation and level of consciousness, mobility, sensation, and presence of nervous deficits.

The patients position and location within the restraints should also be re-assessed during evaluation. The patient's bed should remain at the lowest height and remain locked in position [33]. The size of the restraint device should be proportional to the patients habitus and the patient should be placed in a position that minimizes the occurrence of neurovascular insult. Fasteners should be rechecked to make sure they are appropriately connected and that knots can be rapidly discontinued in emergent situations [33].

Patients should be closely monitored with a preference for direct observation. The presence of a direct observation (sometimes colloquially called "one-to-one") enables continuous assessment of the need for restraint or resolution of an ABD.

6. Restraint discontinuation and resource de-escalation

With continual monitoring and reassessment of patients, the overarching goal is to have the patient removed from restraints as soon as it is safe for the patient and staff to do so [37]. It is recognized that the utilization of a direct observer while the patient's restrained and the repeated, frequent need for reassessment and documentation can be onerous and deplete ED resources. For these and other reasons, it is advantageous to discontinue restraint orders as soon as possible.

7. Conclusion

This chapter addressed the epidemiological factors associated with increasing aggression and behavioral violence noted in the health care system. Due to the increasing prevalence of ABDs that put patients and providers at risk, this chapter reviewed both preventative strategies and interventions to minimize patient and staff harm,

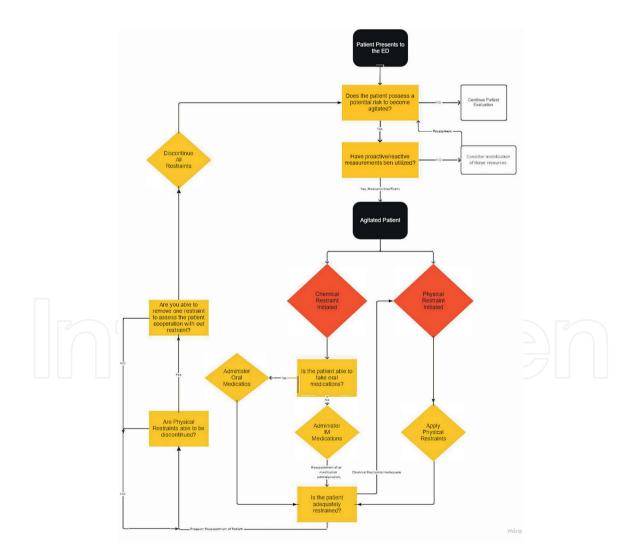


Figure 1.

Proposed workflow algorithm for the management of the acutely agitated patient in the ED. This figure acts as a visual aid to illustrate a flow of thinking and management questions that should be asked and answered throughout the evaluation of an agitated patient. Please reference the "Initiation of Restraints" Section for options on IM and IV Medications during utilization of this flowchart. Flowchart was created with the utilization of MIRO.com software (http://www.miro.com Last accessed on 12, August 2022).

reviewed the factors and considerations entailed in the application of restraints, and discussed the importance of reassessment and eventual restraint discontinuation. The provided flowchart (**Figure 1**) provides a condensed version of the logical progression a provider should consider in ABDs. As discussed throughout this chapter, the best strategy is to prevent ABD. However, there are tools and approaches that providers can utilize in the best interest of the patient to maintain the safety of the patient and health care providers during the management and care of a patient with ABD.

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Conflicts of interest

The authors declare no conflicts of interest.

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References

[1] Cui N, Qiu R, Zhang Y, Chen D, Zhang H, Rao H, et al. Why are physical restraints still in use? A qualitative descriptive study from Chinese critical care clinicians' perspectives. BMJ Open. 2021;**11**(11):e055073

[2] Weiland T, Ivory S, Hutton J. Managing acute Behavioural disturbances in the emergency department using the environment, policies and practices: A systematic review. The Western Journal of Emergency Medicine. 2017;**18**(4):647-661

[3] Ye J, Wang C, Xiao A, Xia Z, Yu L, Lin J, et al. Physical restraint in mental health nursing: A concept analysis. International Journal of Nursing Sciences. 2019;**6**(3):343-348

[4] Chieze M, Hurst S, Kaiser S, Sentissi O. Effects of seclusion and restraint in adult psychiatry: A systematic review. Frontiers in Psychiatry. 2019;**10**:491

[5] Eltaliawi AG, El-Shinawi M, Comer A, Hamazah S, Hirshon JM. Restraint use among selected hospitalized elderly patients in Cairo, Egypt. BMC Research Notes. 2017;**10**(1):633

[6] Gunawardena S. The attitudes towards the use of restraint and restrictive intervention amongst healthcare staff on acute medical and frailty wards—A brief literature review. Geriatrics. 2019;4(3):50

[7] Ziaei M, Massoudifar A, Rajabpour-Sanati A, Pourbagher-Shahri AM, Abdolrazaghnejad A. Management of violence and aggression in emergency environment; a narrative review of 200 related articles. Advanced Journal of Emergency Medicine. 2018;**3**(1):e7. [Internet]. [cited 2022 Jul 16]; (In press). DOI: 10.22114/ajem.v0i0.117 [8] Wong AH, Sabounchi NS, Roncallo HR, Ray JM, Heckmann R. A qualitative system dynamics model for effects of workplace violence and clinician burnout on agitation management in the emergency department. BMC Health Services Research. 2022;**22**(1):75

[9] Roennfeldt H, Wyder M, Byrne L, Hill N, Randall R, Hamilton B. Subjective experiences of mental health crisis Care in Emergency Departments: A narrative review of the qualitative literature. International Journal of Environmental Research and Public Health. 2021;**18**(18):9650

[10] Robins LM, Lee DCA, Bell JS, Srikanth V, Möhler R, Hill KD, et al. Definition and measurement of physical and chemical restraint in long-term care: A systematic review. International Journal of Environmental Research and Public Health. 2021;**18**(7):3639

[11] Richardson SK, Ardagh MW,
Morrison R, Grainger PC. Management of the aggressive emergency department patient: Non-pharmacological perspectives and evidence base.
Open Access Emergency Medicine.
2019;11:271-290

[12] Ramacciati N, Ceccagnoli A, Addey B, Lumini E, Rasero L. Violence towards emergency nurses: A narrative review of theories and frameworks. International Emergency Nursing. 2018;**39**:2-12

[13] Chou HJ, Tseng KY. The experience of emergency nurses caring for patients with mental illness: A qualitative study. International Journal of Environmental Research and Public Health. 2020;**17**(22):8540

[14] Wong AH, Ray JM, Rosenberg A, Crispino L, Parker J, McVaney C, et al. Experiences of individuals who were physically restrained in the emergency department. JAMA Network Open. 2020;**3**(1):e1919381

[15] Bessey LJ, Radue RM, Chapman EN, Boyle LL, Shah MN. Behavioral health needs of older adults in the emergency department. Clinics in Geriatric Medicine. 2018;**34**(3):469-489

[16] Manuel MM, Feng S, Yen K, Patel F. The agitated pediatric patient located in the emergency department: The APPLIED observational study. Journal of the American College of Emergency Physicians Open. 2022;**3**(3):e12766. [Internet] [cited 2022 Jul 16]. Available from: https://onlinelibrary.wiley.com/ doi/10.1002/emp2.12766

[17] Peltzer-Jones J, Nordstrom K,
Currier G, Berlin J, Singh C, Schneider S.
A research agenda for assessment and
Management of Psychosis in emergency
department patients. The Western
Journal of Emergency Medicine.
2019;20(2):403-408

[18] Kersting XAK, Hirsch S, Steinert T. Physical harm and death in the context of coercive measures in psychiatric patients: A systematic review. Frontiers in Psychiatry. 2019;**10**:400

[19] Celofiga A, Kores Plesnicar B, Koprivsek J, Moskon M, Benkovic D, Gregoric KH. Effectiveness of De-escalation in reducing aggression and coercion in acute psychiatric units. A cluster randomized study. Front Psychiatry. 2022;**13**:856153

[20] Wong AH, Whitfill T, Ohuabunwa EC, Ray JM, Dziura JD, Bernstein SL, et al. Association of race/ ethnicity and other demographic characteristics with use of physical restraints in the emergency department. JAMA Network Open. 2021;**4**(1):e2035241

[21] Siegrist-Dreier S, Barbezat I, Thomann S, Richter D, Hahn S, Schmitt K. Restraining patients in acute care hospitals—A qualitative study on the experiences of healthcare staff. Nursing Open. 2022;**9**(2):1311-1321

[22] Raveesh B, Gowda G, Gowda M. Alternatives to use of restraint: A path toward humanistic care. Indian Journal of Psychiatry. 2019;**61**(10):693

[23] National Institute for Health and Care Excellence. Violence and Aggression Short-Term Management in Mental Health, Health and Community Settings (Updated edition). NICE guideline NG10. 2015. [Internet]. [cited 2022 Aug 8]. Available from: https://www. nice.org.uk/guidance/ng10/evidence/ full-guideline-pdf-70830253

[24] Morrison J, Hasselblad M, Kleinpell R, Buie R, Ariosto D, Hardiman E, et al. The disruptive bEhavior manageMEnt ANd prevention in hospitalized patients using a behaviORal intervention team (DEMEANOR) study protocol: A pragmatic, cluster, crossover trial for the Vanderbilt learning healthcare system investigators, Vanderbilt University. Trials. 2020;**21**(1):417

[25] Roppolo LP, Morris DW, Khan F, Downs R, Metzger J, Carder T, 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). Journal of the American College of Emergency Physicians Open. 2020;1(5):898-907

[26] Wong AH, Ray JM, Auerbach MA, Venkatesh AK, McVaney C, Burness D, et al. Study protocol for the ACT response pilot intervention: Development, implementation and evaluation of a systems-based agitation code team (ACT) in the emergency department. BMJ Open. 2020;**10**(6):e036982

[27] Agboola IK, Coupet E, Wong AH. "The coats that we can take off and the ones we Can't": The role of traumainformed care on race and bias during agitation in the emergency department. Annals of Emergency Medicine. 2021;77(5):493-498

[28] Berg SH, Rørtveit K, Walby FA, Aase K. Safe clinical practice for patients hospitalised in mental health wards during a suicidal crisis: Qualitative study of patient experiences. BMJ Open. 2020;**10**(11):e040088

[29] Hart KL, Pellegrini AM, Forester BP, Berretta S, Murphy SN, Perlis RH, et al. Distribution of agitation and related symptoms among hospitalized patients using a scalable natural language processing method. General Hospital Psychiatry. 2021;**68**:46-51

[30] Barnett S, Factors B. Associated with the use of seclusion in an inpatient psychiatric unit in Lilongwe, Malawi. Malawi Medical Journal. 2018;**30**(3):197

[31] Nelstrop L, Chandler-Oatts J, Bingley W, Bleetman T, Corr F, Cronin-Davis J, et al. A systematic review of the safety and effectiveness of restraint and seclusion as interventions for the short-term Management of Violence in adult psychiatric inpatient settings and emergency departments. Worldviews on Evidence-Based Nursing. 2006;**3**(1):8-18

[32] Walker H, Tulloch L. A "necessary evil": Staff perspectives of soft restraint kit use in a high-security hospital. Frontiers in Psychiatry. 2020;**11**:357 [33] SharifiA,ArsalaniN,Fallahi-KhoshknabM, Mohammadi-Shahbolaghi F. The principles of physical restraint use for hospitalized elderly people: An integrated literature review. Systematic Reviews. 2021;**10**(1):129

[34] Palese A, Longhini J, Businarolo A, Piccin T, Pitacco G, Bicego L. Between restrictive and supportive devices in the context of physical restraints: Findings from a large mixed-method study design. International Journal of Environmental Research and Public Health. 2021;**18**(23):12764

[35] Mulkey MA, Munro CL. Calming the agitated patient: Providing strategies to support clinicians. Medsurg Nursing Official Journal of Academic Medicine-Surgery Nurses. 2021;**30**(1):9-13

[36] de Bruijn W, Daams JG, van Hunnik FJG, Arends AJ, Boelens AM, Bosnak EM, et al. Physical and pharmacological restraints in hospital care: Protocol for a systematic review. Frontiers in Psychiatry. 2020;**10**:921

[37] American College of Emergency Physicians (ACEP). Use of patient restraints. Policy statement. Annals of Emergency Medicine. Nov 2014;**64**(5):574. DOI: 10.1016/j. annemergmed.2014.08.039. Epub 2014 Oct 22. PMID: 25669717