



UHN Canada's
Hospital

Current Review of Agitation Management Publications

Main Takeaways Messages

Effectively managing patient agitation in healthcare settings, particularly in emergency departments, requires a proactive and comprehensive approach. Central to this is early recognition. Healthcare workers must be equipped to identify the signs and symptoms of agitation and apply appropriate de-escalation strategies before behaviours escalate. This includes structured assessment frameworks, training in verbal de-escalation, and the use of situational techniques tailored to specific patient needs.

Both pharmacological and non-pharmacological approaches play an important role in agitation management. While traditional and atypical antipsychotics, including emerging options like cannabinoids, have shown promise in addressing acute episodes, they are most effective when combined with long-term coping strategies and caregiver support. Further research is needed to evaluate non-traditional antipsychotics, focusing on the onset of sedation, method of administration, and potential adverse effects.

Non-pharmacological strategies such as empathetic communication, calming environments, and patient-centered safety protocols are critical in preventing repeated episodes of agitation and reducing the need for physical restraints. These approaches also foster patient trust and can contribute to a reduction in workplace violence.

Institutional preparedness is equally important. Developing standardized protocols, reaching consensus on treatment policies, conducting routine screening for agitation risk, and implementing post-incident debriefs can significantly improve outcomes. A care-centered emergency department culture that prioritizes empathy, staff readiness, and interdisciplinary collaboration is key to supporting both patients and providers.

Literature Reviews

1. Abdullah, M. M., Tawfik, M. S., Waly, S. H., & Torki, A. A. (2023). Emergence Agitation: Mechanism, Risk Factors, Assessment and Management. Zagazig University Medical Journal.

The abstract discussed the phenomenon of emergence agitation (EA), a sudden induction of patient agitation due to the use of light anesthesia. It was mentioned that while many risk factors, such as type of anesthetic used, patient characteristics and type of surgery being performed, have been shown to cause emergence agitation, the mechanisms of emergence agitation are not fully understood. However, there are numerous tools available that healthcare workers can employ to evaluate and manage EA, namely preoperative instruction for management before surgery and pharmacological intervention. The abstract also noted that EA recognition can be difficult in high-risk patient situations and intervention strategies greatly

vary according to different therapeutic settings.

2. Ardelean, A., & Redolat, R. (2023). Supporting behavioral and psychological challenges in Alzheimer using technology: A systematic review. *Activities, Adaptation & Aging*, 1-32.

The article presents a comprehensive literature review of the use of technology-based interventions to support individuals with Alzheimer's disease who experience behavioral and psychological challenges. The article mentions that non-pharmacological approaches are the most common method of treating behavioral and psychological symptoms of Alzheimer's disease and should always be considered before pharmacological approaches. Researchers attempted to identify possible technology-based interventions in symptom management along with support interventions with patients, such as robot pet intervention, web-based support systems and wearable biometric data collectors. Researchers classified the identified studies into two categories: psychological symptoms, focusing on improving symptoms of anxiety, depression and quality of life and into behavioral symptoms, focusing on biometric data collection and minimizing wandering behaviors. The findings of the systematic review indicate that technology-based interventions can have positive effects on reducing agitation, improving mood, enhancing cognitive function, and promoting social engagement in individuals with Alzheimer's disease. The article also suggests that these interventions can provide support for caregivers and enhance their ability to manage behavioral and psychological challenges.

3. Asdar, A., Harun, B., Abdullah, R., & Ekayanti, A. (2023). Management of Restraint Measures Against Decline Anxiety Level in Violent Behavior Patients. *Jurnal Ilmiah Kesehatan Sandi Husada*, 12(1), 123-128.

The article discusses the use of restraint measures as a potential management strategy to reduce anxiety levels in patients displaying violent behavior. It was suggested that these measures can potentially reduce anxiety and promote a sense of safety for both the patient and healthcare providers. However, the ethical implications and potential risks associated with their use should always be considered regarding restraint usage. Healthcare professionals must carefully assess and document the appropriateness of using restraints, taking into account the patient's condition, history, and severity of the situation. Thus, restraints should only be considered as a last resort effort in managing agitated patients after non-pharmacological interventions have been explored. Overall, the use of restraints as a last resort effort is supported by their ethical implications along with the proven effectiveness in minimizing patient anxiety levels.

4. Asikainen, J., Vehviläinen-Julkunen, K., Repo-Tiihonen, E., & Louheranta, O. (2023). Use of debriefing following restrictive practices in forensic psychiatric care. *The Journal of Forensic Practice*.

The article focused on the importance and effectiveness of debriefing sessions after the implementation of restrictive practices in forensic psychiatric care settings. Regarding patient care, debriefing is used to gather patients' views on the use of restrictive practices and to strengthen the role of patients as experts within their own care. The article also iterates on the potential use of coercive practices in dangerous situations when verbal de-escalation attempts fail. Some of the mentioned practices include seclusion and the use of physical restraints. The article stated that debriefing in psychiatric wards acts to help patients and staff recover after a traumatic event and/or use of coercive management techniques. Researchers conducted a survey of 524 participants designed to debrief schizophrenic patients after they had been subject to the use of seclusion as a coercive management tactic. The survey form addressed patient behaviors that led to seclusion, how patients felt during seclusion, how patients could have adjusted their behaviors and areas of improvement for the healthcare team. While the study was conducted, hospital staff underwent violence prevention training and debriefing training sessions. In one

pilot ward, the use of debriefing after the use of coercive measures improved from 34% to 100% following training. Follow-up studies found that the use of debriefing training and leadership review led to better results than training alone. Additionally, staff reported improved identification of when coercive methods should be employed for patients.

5. Barnes, K. (2023). Increasing Knowledge of Emergency Department Nurses on Recognizing Aggressive Patient Behavior (Doctoral dissertation, Walden University).

The dissertation described a study which aimed to understand whether educating ED nursing staff on aggressive patient behavior would increase de-escalation and aggressive behavior knowledge. In the article, it was stated that a major factor behind patient aggression in emergency departments was due to a lack of education among healthcare workers on how to recognize and de-escalate early signs of patient aggression. As a result, the goal of the study was to target early aggressive behavior recognition among ED nurses through the implementation of an education program using the ADDIE model to develop the program. The program included an educational video regarding aggressive patient behavior recognition. Participants completed a questionnaire after watching the video to determine whether the educational video had an impact on nurses' de-escalation knowledge. After completing the program, it was found that ED nurse knowledge of aggressive behavior recognition increased by 32%. The author suggested that the educational video could be shown to all emergency nurses during training and orientation as part of an effort to recognize aggressive behaviors and have the knowledge to de-escalate violent situations.

6. Bennell, C., Jenkins, B., Blaskovits, B., Semple, T., Khanizadeh, A. J., Brown, A. S., & Jones, N. J. (2022). Knowledge, skills, and abilities for managing potentially volatile police–public interactions: A narrative review. *Frontiers in psychology*, 13, 818009.

The article presented a review of existing literature regarding police-public interactions to identify the essential knowledge, skills, and abilities required by police officers to effectively manage potentially violent interactions with the public. While de-escalation and violence prevention training programs are mandatory for police officers in many countries, little effort has been made to identifying what skills should be prioritized during training. The study incorporated a two-step methodology approach to identify relevant skills in managing violent interactions. Researchers conducted a literature review using 12 different databases to identify what skills have been addressed in research and training programs. The second step consisted of in-depth interviews with researchers and police trainers which were conducted to verify the importance of the identified skills that should be incorporated into training programs and any skills that were missed by the researchers. Important skills identified in the review include, awareness and management of stress effects, ability to interact effectively with diverse community groups, knowledge of policies and laws, emotion and behavior regulation and an understanding of issues related to mental health. The article emphasizes the significance of proper training in conflict resolution, crisis intervention, and non-violent communication to equip police officers with the necessary skills to navigate potentially volatile encounters safely and efficiently.

7. Chatterley, G. (2023). *Changing Perceptions: Deciphering the language of behaviour*. Crown House Publishing Ltd.

The book highlights the importance of thoroughly understanding the behavior of neurotypical and ASD (autism spectrum disorder) youth in the classroom, at home and in the hospital before caregivers can attempt to improve it. Key components in successful behavior management identified were the presence of supportive staff, building positive relations with child and caregiver, promoting the well-being of caregivers and support staff, developing caregiver

patience regarding behavioral change in ASD youth and the importance of conflict prevention and calm de-escalation when conflict does arise. Additionally, the author also highlights the importance of adaptive, empathetic caregiver response to behavioral challenges in children. Children that are not met with empathy and warmth are not going to be responsive to caregivers and thus will not effectively learn, in turn potentially frustrating caregivers and feeding into a perpetual cycle of frustration in both the caregiver and child. The author additionally outlines caregiver responsibility and a children's accountability for their own actions as components for behavioural improvement.

8. Cho, E., Shin, J., Seok, J. W., Lee, H., Lee, K. H., Jang, J., ... & Kang, B. (2022). The effectiveness of non-pharmacological interventions using information and communication technologies for behavioral and psychological symptoms of dementia: A systematic review and meta-analysis. *International Journal of Nursing Studies*.

The literature review analyzed the effectiveness of technology-based psychosocial interventions in treating BPSD (behavioral and psychological symptoms of dementia) symptoms. Researchers explored the use of internet-based support systems, online symptom monitoring systems via wearable motion sensors, and social robot interventions to supplement for traditional psychosocial interventions which rely on human interaction as a means of treating BPSD symptoms. Results from the review found that technology-based psychosocial interventions greatly vary in intervention delivery, content, duration and frequency of intervention. However, researchers did find a reduction in BPSD symptoms across the studies analyzed ($p < 0.001$), adding to the growing evidence to support non-pharmacological interventions using technology-based systems. Specifically, researchers found a large improvement in depression symptoms ($p < 0.017$) and agitation symptoms related to BPSD ($p < 0.035$). The study also highlighted the importance of expanding future reviews and the need for sufficient trials to directly relate intervention technologies with improving each type of symptom in BPSD.

Different types of technology-based interventions:

- Social interactions (interventions that promoted interaction with social companion)
 - Humanoid robot counseling
 - Robot pet companion interventions
- Activity engagement (active patient engagement in intervention)
 - Web-based music therapy
 - Reminiscence interventions using smartphone apps
- Care-aid (counseling and education programs)
 - Telephone support program
 - Real-time consultation program

9. Conteh, E., Alorda, A., Lebowitz, D., & MacIntosh, T. (2023). Disparities in the Use of Chemical and Physical Restraints in the Emergency Department by Race/Ethnicity. *Journal of Racial and Ethnic Health Disparities*, 1-5.

The study examines potential racial and ethnic disparities in the use of chemical and physical restraints in ED settings among agitation or aggressive patients. Present research on healthcare disparities within EDs promotes the finding that agitated black and asian patients are more likely to have restrictive management techniques, such as IM medication use or physical restraints used on them in comparison to white patients. The meta-analysis used a dataset of 12,229 ED visits and focused on patients whose diagnosis included aggression, substance intoxication, alcohol withdrawal, or aggression related to mental-health emergencies. Researchers collected data on the reason for ED admission, the degree of physical restrictiveness used in agitation management intervention and the racial category of the patients. The findings of the study indicate significant disparities in the utilization of both chemical and physical restraints. Specifically, black and

hispanic patients were found to have higher odds of receiving chemical restraints, IM medications for example, compared to white patients. Similarly, black patients were at a greater likelihood to have physical restraints used compared to white patients. It was suggested that these disparities may be driven by implicit biases and potential variations in clinical decision-making by hospital staff. As a result of the findings, the study emphasizes the importance of promoting equitable healthcare practices and reducing disparities in the use of restraints. It calls for increased awareness among healthcare providers about potential biases and the need for culturally sensitive care in emergency settings.

10. Devlin, J. W., Skrobik, Y., Gélinas, C., Needham, D. M., Slooter, A. J., Pandharipande, P. P., ... & Alhazzani, W. (2018). Clinical practice guidelines for the prevention and management of pain, agitation/sedation, delirium, immobility, and sleep disruption in adult patients in the ICU. *Critical care medicine*, 46(9), e825-e873.

The article provided comprehensive guidelines for the prevention and management of common challenges faced by adult patients in the Intensive Care Unit (ICU). The guidelines focus on five key areas: pain, agitation/sedation, delirium, immobility, and sleep disruption. The guidelines presented in the article are evidence-based and aim to improve patient outcomes and the overall quality of care in the ICU setting. A panel of international experts in clinical practice along with former ICU patients were recruited to create target themes which were then refined through a literature review and then reviewed again by the panel of experts and patients.

The article discusses specific recommendations for each area:

- *Pain:* Systematic pain assessment using standardized measures, proactive pain management strategies, and an approach to pain relief that includes both pharmacological (use of pain medications as an adjunct to opioid therapy) and non-pharmacological intervention (relaxation techniques, cold therapy) should be incorporated in patient diagnosis.
- *Agitation/Sedation:* The guidelines emphasized the importance of individualized sedation practices to achieve the desired level of sedation while minimizing the risk of over-sedation. They encouraged the use of validated scales to assess sedation and recommend regular assessment and re-evaluation to adjust sedation levels as needed.
- *Delirium:* Delirium screening and prevention are vital in behavioral screening assessments to identify and manage risk factors that may lead to patient ICU admission. Assessments should include patient level arousal, prevalence of delirium symptoms and previous history of delirium. The article recommended non-pharmacological interventions however, also suggests the use of medications to manage delirium when it occurs.
- *Immobility:* The guidelines highlight the negative effects of patient immobility and advocate for early mobilization and rehabilitation efforts for critically ill ICU patients who have physical impairments. They recommended implementing patient mobilization protocols in ICUs to facilitate safe and effective mobility.
- *Sleep Disruption:* The guidelines address various factors that disrupt sleep in critically ill patients in the ICU. Contributing risk factors to sleep disruption include poor lighting, noise disruption and poor quality of sleep before ICU admission. They recommended implementing strategies to create a more conducive environment for sleep and promoting sleep hygiene practices for patients along with implementing non-pharmacological methods such as aromatherapy to produce a productive sleep environment.

11. Cotton, B., & Oughtbridge, D. (2023, July). De-escalation: Principles and guidance including restraint. <https://www.dbth.nhs.uk/document/patps15/>

The article provided a comprehensive overview of de-escalation techniques and principles related to agitated patient management with a specific focus on the use of restraint. It covered conflict management training, risk assessment screening, use of physical and chemical restraint and when/how to activate a security response. Additionally, the article explored the role of physical restraint when de-escalation alone is insufficient to manage aggressive behaviors safely. The article mentioned that restraints should only be used as a last resort and discussed the potential risks and ethical considerations associated with its use. In particular, the article provided a step-by-step outline of how HCWs should assess instances of aggressive patients before considering physical restraints, including planning physical intervention, implementing risk assessment and identifying challenging behaviors that can potentially lead to escalated behavior. Furthermore, the article emphasized the importance of ongoing staff training and supervision to ensure safe and effective implementation of de-escalation and restraint techniques. It was suggested that staff training should focus on effective crises de-escalation along with the need for deliberate debrief sessions and necessary support systems for HCWs involved in violent situations.

12. Evanoff, A. B., Baig, M., Taylor, J. B., & Beach, S. R. (2023). Ketamine: A Practical Review for the Consultation-Liaison Psychiatrist. *Journal of the Academy of Consultation-Liaison Psychiatry*.

The literature review provided an overview of the clinical use of ketamine in the field of consultation-liaison psychiatry. The article stated that while there are a few clinical studies discussing the use of ketamine as a potential pharmacological method of managing agitation, there are no clear guidelines on how to safely and effectively use ketamine as a medication for agitation management. Researchers conducted a literature review of articles related to the use of ketamine as a means for managing agitated and aggressive patients and explored evidence supporting the efficacy and safety of ketamine in psychiatric applications. It discussed the importance of monitoring patients during and after ketamine administration and the potential for misuse of the drug. The authors also mentioned the role that C-L psychiatrists play in advising colleagues on how to administer ketamine and when it should be used. Overall, it was suggested that further research is needed for a formal consensus regarding efficacy and safety before the routine usage of ketamine.

Benefits:

- Shorter time for adequate sedation compared to haloperidol and benzodiazepines
- Produces a deeper dissociative state by disconnecting the CNS from outside stim (vital for treating patients with acute agitation)
- Not associated with cardiorespiratory depression and other symptoms related to use of traditional antipsychotics

Adverse effects

- Carries significant medical risks such as increased rates of intubation and induces schizo-related symptoms in healthy controls
 - Greater severity of schizo symptoms observed in schizo patients and the development of schizo-related symptoms in healthy controls
- Potential risk of delirium when ketamine was used for continuous sedation along with the potential for developing catatonia in patients

13. González-Rodríguez, A., Seeman, M. V., Román, E., Natividad, M., Pagés, C., Ghigliazza, C., & Monreal, J. A. (2023, February). Critical issues in the management of agitation, aggression, and end-of-life in delusional disorder: a mini-review. In *Healthcare* (Vol. 11, No. 4, p. 458). MDPI.

The literature review provided an overview of key considerations and challenges related to the management of agitation, aggression, and end-of-life care in individuals with delusional disorder. The authors highlight the importance of understanding symptoms of delusional disorder which include fixed false beliefs which can be accompanied by symptoms of agitation and aggression. Additionally, due to symptoms of delusions and associated distress experienced by individuals with the disorder, implementing successful interventions proves difficult for caregivers. The article also mentions the importance of interventions that focus on de-escalation rather than pharmacotherapy, which has been proven to be more effective in managing medical causes of agitation and aggression related to delusional disorder. Specifically, patients with delusion disorder are still active members of society and potential adverse effects from medications should be avoided when possible. The authors state the need for future studies on the association of delusion disorder and accelerated aging along with studies to better understand progressive cognitive deficits among patients with delusion disorder.

14. Faden, J., Musselman, M., & Citrome, L. (2023). Sublingual dexmedetomidine: repurposing an anesthetic as an anti-agitation agent. *Expert Review of Neurotherapeutics*, 23(2), 97-106.

The article discussed the potential use of sublingual dexmedetomidine, an anesthetic medication, as an approach for managing agitation in various clinical settings. The use of non-pharmacological methods in managing patient agitation should always be explored first however, limitations in effective training programs and clear treatment guidelines promote the consideration of pharmacological methods. The article stated the need for pharmacological methods with improved safety profiles and efficacy before their routine usage. The authors conducted a literature review regarding the use of sublingual dexmedetomidine as a potential anti-agitation treatment and focused on a particular clinical study that involved the use of sublingual dexmedetomidine as a treatment for agitation in patients with schizophrenia and patients with bipolar disorder. The results of the study found that patients in the 180mcg dosage group expressed the greatest decrease in symptoms after one dose and additionally found that participants in the 120mcg group and placebo group required 2 or 3 doses to reach a manageable state. In summary, the article highlights the use of sublingual dexmedetomidine as an anti-agitation agent for treatment of agitation in patients with schizophrenia and BPD with a high degree of effectiveness in managing agitative symptoms. Future studies should consider the drug's potential for being used as a routine anti-agitation medication.

15. Fischer, C. E., & Hakobyan, N. (2022). Non-Pharmacologic management: Considerations for Family Caregivers. *Alzheimer's & Dementia*, 18.

The study review discusses the important role family caregivers play in non-pharmacologic agitation management of patients with dementia. Analysis of data from social media platforms, long term care data and clinical trial data were included in the report to create a guideline for successful features of at-home non-pharmacological intervention. Active patient engagement in activities that foster problem-solving and communication skills was reported to be critical to the management of patient agitation. In addition, outside support networks for caregivers and interventions that focus on caregivers' self-adequacy were also noted to be important to the well-being and efficiency.

16. Flagg, L. K., & Mauney, J. A. (2023). Updates and Clinical Implications of Pediatric Delirium. *Critical Care Nursing Clinics*.

The article provided an overview of the current understanding of pediatric delirium and its clinical implications. The authors discussed risk factors associated with pediatric delirium, including underlying medical conditions, use of sedatives and pharmacological approaches, and prolonged hospitalization. They emphasized the need for healthcare professionals to be vigilant in identifying and assessing delirium among pediatric patients. The article provided an update on the diagnostic criteria for pediatric delirium and discusses assessment tools that can aid in its recognition. It emphasized the importance of a comprehensive evaluation, including medical history, physical examination, and observation/consistent updates of behavioral changes to establish an accurate diagnosis. In summary, the article provided an update on pediatric delirium, including its risk factors, diagnostic criteria, and clinical implications. It emphasized the importance of early recognition and a comprehensive approach to management.

17. Gupta, S., Williams, K., Matile, J., Milne, N., Smith, O., Snider, C., & Vaillancourt, S. (2023). Trends in the role of security services in the delivery of emergency department care. *Canadian Journal of Emergency Medicine*, 25(1), 43-47.

The article examined the role of security services in EDs and their impact on patient care. A review of a hospital-wide security database was used to identify the frequency of security services involvement in ED care and to identify any temporal trends in security services use in EDs. Researchers examined the time of day/time of year of security activation along with the reported incident which led to security service activation. Results from the study stated that there was no increase in security calls from month to month however there was an increase in security calls overnight. The article also addressed the potential benefits and challenges associated with security services in EDs. It discussed how security personnel can contribute to maintaining a safe environment, ensuring the well-being of patients and staff, and facilitating the delivery of care. However, concerns were raised regarding the potential for security measures to inadvertently compromise patient-centered care or create an overly hostile or intimidating environment. In addition, the study noted that tracking how security services are used in clinical care may provide a proxy for understanding in what departments is WPV most prevalent and the degree of WPV severity in respective departments.

18. Humphries, C., Kelly, A., Sadik, A., Walker, A., & Smith, J. (2023). Consensus on acute behavioural disturbance in the UK: a multidisciplinary modified Delphi study to determine what it is and how it should be managed. *Emergency Medicine Journal*.

The article discussed the lack of clarity among the term acute behavioral disturbance (ABD) and other medical terms relating to patient agitation, thus creating inconsistencies in care delivery and safety policies. The study included a team of medical professionals in the UK who created a criteria for the identification and management of ABD through the use of a Delphi methodology. It was mentioned that several healthcare organizations in the UK have produced care guidelines for patients with behavioral difficulties, however they have failed to come to a general consensus on effective treatment guidelines. The inability to come up with a consensus definition negatively impacts the ability of services and systems involved to consistently apply guidance and provide effective, standardized care. Researchers in the study invited field experts from health care, policing and custodial organizations to participate in the Delphi study. Participants responded to three survey rounds in which they rated their agreement rate with general and specific statements relating to ABD management and identification and treatment guidelines. Results from the survey found that ABD is not separate to agitation and treatment guidance should instead focus on a wide range of presentations of agitation. Additionally, the study also found differences in ABD expectations between first responders and healthcare providers. First responders reported to be more focused identification of patients who were in need of physical health management while healthcare providers' focus was on ABD recognition. It was suggested that change to relevant ABD guidelines would have a large impact on healthcare providers'

agitation recognition.

19. Im, D. D., Bukhman, A. K., Joseph, J. W., Dziobek, J. C., Grant, J., Clifford, K. C., Kim, I., Chen, P. C., Schmelzer, N. A., Powell, R., Waters, B., Dundin, A., Askman, N., Lassiter, T., Baymon, D. E., Shankar, K., & Sanchez, L. D. (2024). Code De-Escalation: Decreasing restraint use during agitation management in a community hospital emergency department. *The American Journal of Emergency Medicine*, 76, 193–198.

This publication discusses a study that evaluated the effectiveness of code de-escalation, a standardized, team-based approach that incorporates algorithmic assessment of potential bias, in reducing restraint use in healthcare. Research indicates that the physical and emotional harm from physical restraint disproportionately affects Black/African American and Hispanic patients. The study aimed to create and implement a clear protocol for rapid team response to manage agitation, consider the drivers of threat perception and prioritize less invasive techniques to decrease restraint use across all racial/ethnic groups and workplace violence incidents. Conducted at an urban community ED with around 30,000 annual visits, the researchers performed an observational study comparing 10 months before and after the May 2021 implementation of Code De-escalation. The intervention included a standardized agitation assessment, team involvement with clear steps, and weekly training drills. The primary outcome was the change in physical restraint use for patients on involuntary psychiatric hold, and the secondary outcome was the change in workplace violence events in general. Findings showed a significant decrease in physical restraint use at the intervention site from 7.4% to 3.7%, a result not seen at the control sites. Furthermore, the study observed significant reductions in the overall rates of all reported violent incidents. The protocol's inclusion of a group "timeout" to bring awareness of potential bias is a particularly interesting method employed that seemed to contribute to effectiveness.

20. Juvonen, K. (2023). Behavioral Health Emergencies. *Physician Assistant Clinics*, 8(1), 167-192.

The article highlights the methods and techniques of 6 different types of patient-related health emergencies. The article creates the distinction between different types of patients and promotes the idea that each patient is different in their response to their ED admission and should thus be evaluated and managed properly in order for ED staff to have an idea of what kind of patient they are currently handling. In addition, the article also covers the definition, treatment guidelines, referral schedule and diagnosis of each type of patient.

Different types of patient-related health emergencies:

- The angry/agitated patient
- The anxious patient
- The disorganized/psychotic patient
- The acutely depressed/actively suicidal patient
- Medical emergencies of the psychiatric patient
- The chemically dependent/intoxicated patient.

21. Kooken, R. W. J., Tilburgs, B., ter Heine, R., Ramakers, B., van den Boogaard, M., Wiggelo-Lijbers, D., Klop-Riehl, M., Rettig, T. C. D., Wijnhoven, J., Simons, B., van de Weyer, R., Bakker, S., de Ruijter, W., Slot, S., Braker-Scholtes, S., Bruin, L., Habes, Q., Meeuws, S., & Fleuren-Janssen, M. (2023). A multicomponent intervention program to prevent and reduce agitation and physical restraint use in the ICU (PRAISE): study protocol for a multicenter, stepped-wedge, cluster randomized controlled trial. *Trials*, 24(1).

This publication details a randomized controlled trial named PRAISE that is conducted in six

Dutch ICUs. The study aims to determine the effectiveness of the multicomponent intervention (MCI) program that combines person-centred non-pharmacological interventions with goal-directed light sedation using dexmedetomidine in agitated adult ICU patients. The program's implementation involves expert groups within each ICU who tailor the program based on local barriers and facilitators. Key components of the MCI include education of ICU professionals on the risks of restraints and alternative strategies, identification of patients at risk for agitation, multidisciplinary care planning, and the use of dexmedetomidine for sedation, with protective mittens or arm splints allowing movement as a last resort. This research specifically focuses on the ICU setting and prioritizes the minimization of physical restraints as a primary aim, measuring a broad range of short-term (e.g., ICU-free days, device removals, delirium) and long-term patient-centred outcomes (e.g., quality of life, PTSD, cost-effectiveness).

21. Lucendo, A. P., Otero, P. P., Almudévar, P. M., Carmona, S. A., López, E. L., & Rueda, F. R. (2023). Individualised analgesia, sedation, delirium and comfort management strategies in the ICU: a narrative review. *Revista Española de Anestesiología y Reanimación (English Edition)*.

The article provides a review of strategies and guidelines for medical and surgical critical care units regarding methods to ensure patient comfort and avoid pharmacological intervention when not needed. Non-pharmacological and pharmacological management methods were explored in the review as well as the importance of pain assessment scale use and management methods of patients presenting delirium in the ICU. Non-pharmacological methods listed in the review include massage therapy, cold therapy and relaxation therapy, which were stated to have displayed a reduction in numerical and behavioral pain scale scores. The article reviews pain management strategies. In addition to the use of pain assessment scales to determine what management strategies to employ, the authors also recommend the routine use of pain scales to reduce the total use of sedatives as a pharmacological management method. In relation to managing patients with delirium, it was suggested that delirium should be treated using the ABCDEF guideline which was outlined in the paper. The guidelines roughly overview the development of a controlled sedation protocol, use of pain management scales, treating withdrawal symptoms if patients are hospitalized for substance abuse-related complications. Additionally, the article mentions the importance of using physical restraints as a final resort to manage patient with delirium.

22. Mohammadpour, Y., Parizad, N., Habibzadeh, H., Moradi, Y., & Baghaei, R. (2024). "We just ignored them." Adaptation strategies used by emergency department personnel in the face of workplace violence: A qualitative study. *International Emergency Nursing*, 76, 101507.

This publication details a qualitative study, conducted in Emergency Departments (EDs) of Urmia City Medical Centers in Iran, explored the adaptive strategies used by 22 ED personnel in response to workplace violence (WPV). Researchers employed purposive sampling and semi-structured interviews, then used conventional content analysis to identify themes. Their findings revealed an overarching theme of "mastering the situation and avoiding harm," supported by two main categories: the effort to avoid violence and the effort to escape/alleviate suffering. These categories brought on strategies such as managing patients, self-control, seeking support, emotional discharge, thought diversion, tendency to spirituality, and seeking medical assistance. This study highlights the conscious adaptive mechanisms used by ED staff, contrasting with defence mechanisms, and emphasizing the culturally influenced, high prevalence of WPV in Asian and Middle Eastern regions compared to Western countries. The study recommends the implementation of comprehensive programs, including zero-tolerance policies, communication skills training, and public awareness campaigns, to empower ED personnel and help with the effects of WPV.

23. Paulo, K. (2023). Decreasing Restraint Use by Utilization of Agitation Assessment and Verbal De-escalation Strategies in an Inpatient Non-Psychiatric Hospital.

The article conducted a literature review of articles related to reducing the use of physical restraints in a non-psychiatric hospital by implementing agitation assessment tools and employing verbal de-escalation techniques. Researchers commented on the negative impact of restraint use on patients, citing increased feelings of anxiety, distress and a general feeling of hopelessness in patients. The authors described the implementation of agitation assessment tools that allow staff to systematically evaluate and categorize patients' levels of agitation along with the importance of verbal de-escalation strategies in managing agitation and preventing escalated behaviors. The review found that agitation can be mitigated using a combination of intervention techniques and behavior assessment scales. The authors mentioned that engaging patients in decision-making about their own care allowed for more effective agitation assessment. In terms of verbal de-escalation strategies, the researchers found a significant gap in verbal de-escalation attempts toward managing agitation. As a limitation, the authors note that while it is clear that physical restraints have the potential to do more harm than good in de-escalating agitation, there was little available evidence of effective agitation assessment measures and verbal de-escalation techniques used in agitation cases.

24. Pines, R., Myers, K. K., & Giles, H. (2023). Healthcare Professionals' Emotional Labor and Management of Workplace Violence with Underserved Patients in the Safety Net Context. *Health Communication*, 1-10.

The article focused on emotional labor performed by healthcare professionals (HPs) and its impact on the management of workplace violence, specifically in the context of underserved patients in healthcare settings. The article stated that HPs are most susceptible to negative outcomes of WPV due to the degree of emotional labor in their care that requires emotional validation and customer service practices. Researchers conducted 26 interviews with HPs that work at a non-profit healthcare org that serves a target population of low-income, largely uninsured patients to examine the occurrence of aggressive patients and HPs methods of managing such situations. The results from the interviews found that HPs believe there is an impact of the clinic environment on patient aggression management and hold initial perceptions regarding predisposition to WPV and social biases that shape their encounters with aggressive patients. The findings also mention that HPs report incidents of emotional labor and burnout that come from interacting with aggressive patients as a means to prevent WPV. As a result, the article stated the importance of effective management techniques and emotional support to HPs as they receive the brunt of patient complaints and are placed in a unique position in which they have to reply to WPV and complaints with a cheerful and customer service approach.

25. Powell, J., Taylor, D., & Manoharan, M. (2023). The pharmacological management of acute behavioural disturbance in pregnancy. *BJPsych Advances*, 1-4.

The article focuses on pharmacological treatment options for managing acute behavioral disturbances in pregnant women. The authors iterate the importance of carefully considering the benefits and risks of pharmacological interventions, taking into account the individual patient's condition and the potential effects on both the mother and the fetus. Pharmacological agents such as antipsychotics, benzodiazepines, mood stabilizers, and sedatives have been noted to have little to no teratogenic effects, however future studies are still needed to understand the safety of their usage. The article states that the British Association for Psychopharmacology suggests that pregnant women should have a predetermined plan written in their care record to indicate what pharmacological techniques should be carried out in a situation of acute behavioral disturbance. Overall, the article emphasizes the importance of individualized treatment plans and close monitoring of pregnant women receiving pharmacological interventions to maintain their safety

and health during pregnancy.

26. Ramm, R. M., Lerner, Z. I., Levy-Meeks, G. S., Burke, R. V., Raven, M. C., Song, A., & Glass, M. H. (2023). A Case Report of Treatment-Resistant Agitation in Dementia With Lewy Bodies: Medical Marijuana as an Alternative to Antipsychotics. *Journal of Palliative Medicine*, 26(5), 737-740.

The paper presents a case study of an 85-year-old male diagnosed with LBD (Lewy body dementia) who was admitted to the ED for dementia-related symptoms of aggression. Within the case study, researchers presented an alternative method to traditional antipsychotic drugs in the long-term management of behavioral changes regarding aggression and agitation tendencies related to dementia. It was stated that while promising research towards the prescription of low-dosage cannabinoids for treating psychiatric symptoms of dementia such as agitation and aggression exists, there is not enough present literature to suggest its routine usage. However, due to the potential worsening of symptoms and increased risk of mortality observed among antipsychotics usage, the prescription of cannabinoids is a line of emerging research that bears recognition in treating behavioral changes related to dementia. In the described case, the patient was noted to have a history of violent outbursts to family caregivers and during hospital visits, in which he was prescribed numerous different antipsychotics, specifically haloperidol and lorazepam. After another violent outburst, the hospital's palliative care team prescribed 5mg of THC and 5mg of CBD to the patient which were to be administered daily and 50 mg of quetiapine nightly.

27. Recsky, C., Moynihan, M., Maranghi, G., Smith, O. M., PausJenssen, E., Sanon, P. N., ... & Hamilton, C. B. (2023). Evidence-based approaches to mitigate workplace violence from patients and visitors in emergency departments: a rapid review. *Journal of emergency nursing*.

The paper presents an overview of evidence-based strategies used in EDs to address and prevent instances of WPV. Researchers conducted a review of studies addressing WPV management interventions in hospital EDs and formulated a general summary of effective intervention strategies. Some of these interventions include the implementation of comprehensive violence prevention policies, enhanced security measures, staff training in de-escalation techniques, the use of personal alarms or panic buttons, and strategies for improving communication with patients and visitors. Additionally, the researchers suggest that a multi-component approach, combining multiple strategies such as screening, policy change and post incident debriefing, is more effective in reducing workplace violence in EDs compared to single interventions that target certain causes and acute instances of WPV. The article also emphasizes the importance of organizational commitment to enforcing zero-tolerance WPV policy and a culture of safety in preventing and managing violent incidents. However, the article also acknowledges the limitations of the available evidence, including the lack of robust research studies and variations in study designs.

28. Shane Escue, J., Gutierrez, F., Rebecca Batts, J., Lumagui, M., & Oloan, V. (2023). Implementing effective interventions against workplace violence. *Critical care nursing quarterly*, 46(3), 255-270.

The literature review discusses the importance of developing and implementing effective interventions as a means of minimizing instances of WPV. It emphasizes the negative impact of WPV on employee resignation rates due to increasing job dissatisfaction, safety concerns and ineffective WPV management interventions. The article also reports that 86% of WPV reports are verbal reports to supervisors and are not formally addressed, in turn, limiting the effectiveness of the post-incident process and contributing to the acceptance that WPV is just a normal occurrence in the hospital. Researchers identified 6 key factors that contribute to preventing the frequency and severity of WPV. Additionally, the article emphasizes the importance of training programs to

and severity of WPV. Additionally, the article emphasizes the importance of training programs to equip employees with the skills to recognize, prevent, and respond to workplace violence. Suggested policy changes include creating behavioral urgent response teams, mandatory post-event checklists and standardized intervention process in managing agitated and aggressive patients. It also suggests the implementation of enhanced security measures and surveillance systems to create a safer work environment. The article emphasizes the need for ongoing evaluation and monitoring of interventions to ensure their effectiveness. It also highlights the importance of fostering a supportive organizational culture that prioritizes safety, respects employees' concerns, and provides support for victims of workplace violence.

Key Factors identified in the study:

- Work environment
 - Promoting the morale and confidence of hospital staff
 - Having a clean workspace to minimize stress levels
- WPV managing processes
 - Evidence-based management techniques
- Interventions are standardized
- Staff knowledge in managing WPV
 - Knowledge of symptoms and potential escalating factors
- Transparent communication with patient
- Consistent intervention
 - Consistency and standardization in interventions
- Zero-tolerance WPV policy

29. Rhodus, E. K., Kryscio, R. J., Barber, J. M., Burhan, A. M., & Jicha, G. A. (2022). Feasibility of community-based remote, biometric data collection in persons with Alzheimer's disease and behavioral symptoms. *Alzheimer's & Dementia*, 18, e068135.

The review study focused on the feasibility of collecting biometric data in older patients living with AD (Alzheimer's disease) in a non-pharmacological home-based randomized controlled trial. Patients wore ActiGraph watches on their wrists for six continuous days at two different data collection time points. Feasibility was measured regarding the acceptance of wearing the device for the entirety of the data collection period. 14 participants or 66.7% of the total participants in the study wore the device for the entirety of the data collection period. The study reported that biometric data collection for older adults with AD in a home setting was a feasible means of collecting data, limiting the frequency for acute hospitalizations related to biometric data collection and routine check-ups.

30. Rosenberg, P. B. (2022). Special Circumstances: Agitation with Dementia in Emergency Departments. *Alzheimer's & Dementia*, 18.

The review study discussed the prevalence of agitation in patients living with dementia that are admitted to emergency departments. The study stated that a major challenge with agitation management in older adults living with dementia is creating a timeframe and history of their agitation, particularly for patients coming from LTC. LTC staff are able to readily describe episodes of agitation but may miss or not entirely recall the history of episodes or their potential causations. The inability to create a timeframe of episodes makes it difficult to identify whether agitation is chronic or acute, which was stated to be a key symptom of delirium. As a result, the review suggests that EDs should create a systematic method of delirium screening and incorporate the continued usage of non-pharmacological strategies in the management of agitated patients as they have been shown to be highly effective in recent studies.

31. Sano, M., Cummings, J., Auer, S., Bergh, S., Fischer, C. E., Gerritsen, D., ... & Zhu, C. W. (2023). Agitation in cognitive disorders: Progress in the International Psychogeriatric Association consensus clinical and research definition. *International Psychogeriatrics*, 1-13.

The article discusses the advancements made in defining and understanding agitation in individuals with progressive cognitive disorders. A panel of expert psychotherapists and psychiatrists along with findings from current literature and clinical trials were used to create a working definition of agitation to address unique circumstances in healthcare settings. The article highlights the importance of defining agitation in order for future studies to use the definition to correctly identify behaviors related to agitation and target interventions to prevent episodes of acute agitation. Literature regarding WPV and agitation management techniques report the lack of a standard definition of terms related to identifying the symptoms and causes of agitation, creating a disparity among the targeted behaviors of WPV prevention interventions. The panel also stressed the need to differentiate agitation from other related symptoms, such as anxiety or depression to effectively implement agitation management techniques. Overall, the article iterates the importance of addressing agitation within the context of the individual's cognitive impairment and overall clinical presentation along with the importance of implementing effective, individual intervention.

32. Sarkar, S., Bhatia, G., & Dhawan, A. (2023). Clinical Practice Guidelines for Assessment and Management of Patients with Substance Intoxication Presenting to the Emergency Department. *Indian Journal of Psychiatry*, 65(2), 196.

The present article provides guidelines aimed at assisting healthcare professionals in assessing and managing patients admitted to the ED for substance intoxication. The guidelines provide recommendations for the initial assessment of patients, including the collection of a comprehensive medical history, physical examination, and monitoring of vital signs. They emphasize the importance of promptly identifying the substances involved, assessing the patient's level of intoxication and managing symptoms of acute intoxication and withdrawal symptoms. Additionally, the article mentions the increased occurrence of patients becoming aggressive or agitated either due in part to lowered inhibition as a result of their intoxicated state or being admitted to the ED against their wishes, largely being admitted by law enforcement. It is also mentioned that the biggest concern for staff is the potential unreliability of substance history use as patients tend to underreport or may not fully recollect their use. The guidelines serve as potential preventative measures for instances of WPV related to substance intoxication.

33. Strayer, R. J. (2023). Disruptive and Dangerous Agitation. *Urban Emergency Medicine*, 13.

The book chapter highlighted the challenges that HCWs are faced with when managing agitated patients in emergency department (ED) settings. The author identified three levels of agitation severity. Additionally, diagnostic tools, treatment suggestions and de-escalation techniques are suggested regarding each level of agitation severity.

- *Agitated but cooperative patient*
 - Patients respond to suggestions and may be managed with minimal or gentle pharm
 - Example patients
 - Older person with mild dementia
 - Mildly intoxicated teenager
 - Patients can be reliably assessed and concern for underlying dangerous conditions is low
 - Management techniques
 - Using staff to distract them

- Feeding patient
 - Reducing environmental stimuli or giving access to audio or visual stim
- Pharmacological management techniques
 - First choice is a agitation management medication the patient already takes or knows
 - Small doses of calming medication offered by mouth or oral dissolving tablet may be used, medications include; risperidone, lorazepam and ziprasidone
- *Disruptive without danger patient*
 - Patients require medications to treat agitation but are not an immediate threat
 - Example patients
 - Highly intoxicated patients
 - Management techniques
 - Verbal de-escalation techniques should always be the first method of treatment
 - Include identifying patient's needs, providing validating support of the situation, offering patient choices or options
 - Pharmacological management techniques
 - Physicians should understand that sedative have a period of delay before the onset of sedation and should take safety precautions before hand
 - Includes removing environmental stimuli, removing other patients that may be harmed
 - Combination of haloperidol and lorazepam is a commonly used sedative for patients
 - Use of combination of triperidol and midazolam is also an alternative with a high degree of supporting evidence
- *Dangerous agitation*
 - Medical emergency that requires immediate control to protect patient and others
 - Example patients
 - Severely intoxicated patients
 - Patients with mental health episodes (delirious patients)
 - Patients may harbour dangerous conditions that are not acute to the state of mind they are currently expressing
 - Management techniques
 - Degree of agitation should first be identified and then correct security resources are called to manage the patient
 - Suggested that after subduing the patient, an oxygen face mask should be placed on the patient's face to treat potential hypoxia that the patient may display due to their agitation
 - Identification of restraint use should be considered after subduing patient
 - Pharmacological management techniques
 - Main concern of pharm techniques is to minimize adverse medication effects and the possible need for repeat dosing... Thus, deep sedation is accepted in exchange for immediate agitation treatment
 - Ketamine is a common IM medication used to effectively and immediately sedate agitated patients and its safety has been routinely supported... Side effects include potential cardiorespiratory compromise and high rates of intubation

34. Le Bail, S., Mouden, J., Gaillard, M., & Dupouy, J. (2023). Clinical practical guide for the management of an acute psychiatric crisis in primary care: a meta-review of systematic literature. La Presse Médicale Open, 100043.

The review study focused on existing literature and meta-analyses regarding guidelines towards oral antipsychotics treatment for acute psychiatric crisis management. It was mentioned that while the use of oral antipsychotics are an effective treatment and are widely used to manage cases of acute agitation, many general practitioners lack confidence in their treatment and diagnostic in cases of acute crisis management. The article attempted to identify evidence-based practice and guidelines towards optimal treatment for general practitioners. Researchers collected 31 articles from various online academic databases including, PUBMED, Cochrane and Web of Science. Main findings from the article state that oral antipsychotics were included as a first-line treatment for first-episode psychosis in all guidelines that were reviewed. Additionally, reviewed guidelines suggested a "low and slow" dosage to first-episode psychosis patients. All reviewed guidelines also stated that oral formulation was the best method towards treating agitation. Finally, although guidelines differed on what physical monitoring methods to use when monitoring patient tolerance when antipsychotics were prescribed, all guidelines recommended monitoring weight, blood pressure and monitoring fast glucose and lipids.

35. Miller, G., Enguidanos, E., & Wilson, M. (2023, July 7). Agitation Treatment in the Emergency Department. <https://www.acepnow.com/article/agitation-treatment-in-the-emergency-department/>

The blog post addressed challenges and strategies for managing agitation in patients coming to the Emergency Department (ED). The post highlighted the importance of pharmacological and non-pharmacological calming measures as a means of managing agitated patients. It was suggested that calming treatment should be considered immediately when patients who are expressing agitation are brought to EDs. When considering verbal de-escalation, it was suggested that healthcare providers should focus on creating a non-confrontational relationship with the patient to order to gain their trust and successfully de-escalate the situation. Regarding pharmacological measures, the post suggested that physicians must first establish trust with a patient before administering any medication to reduce agitation. After establishing trust with the patient, it was suggested that physicians should start with a low dosage of a single medication rather than multiple different medications. It was also suggested that along with pharmacological intervention, physicians should also focus on patient comfort, some examples listed in the post included limiting environmental stimuli and offering meals. Finally, the post also suggested that ED physicians should consider re-starting outpatient medication for agitation management once they are stabilized for their agitation.

36. Strayer, R. J., Friedman, B. W., Haroz, R., Ketcham, E., Klein, L., LaPietra, A. M., ... & Nelson, L. S. (2023). Emergency Department Management of Patients With Alcohol Intoxication, Alcohol Withdrawal, and Alcohol Use Disorder: A White Paper Prepared for the American Academy of Emergency Medicine. *The Journal of Emergency Medicine*, 64(4), 517-540.

The article provided guidelines for ED healthcare professionals in managing patients presenting with alcohol-related conditions. A suggestion made by the authors was the importance of considering the impact that alcohol has on ED admission frequency due to its broad acceptance in society. Thus, ED physicians should be well-equipped with agitation management techniques to manage patient agitation in alcohol-related cases. The authors outline evidence-based guidelines for managing alcohol-related situations in the ED. This includes assessing and stabilizing vital signs, managing potential complications, and identifying what interventions should be employed along with how to implement interventions to address alcohol withdrawal symptoms. They also discuss the use of pharmacological agents, such as benzodiazepines, in managing withdrawal symptoms. Overall, the authors state the importance of creating a solid foundation for treating patients admitted to the ED for alcohol-related complications due to the high frequency of alcohol-related ED admissions. It was also stated that while acute hospitalization acts as a means to stabilize patients, meaningful treatment lies in treatment and rehab programs that focus on

educational efforts and improving community resources.

37. Reißmann, S., Wirth, T., Beringer, V., Groneberg, D. A., Nienhaus, A., Harth, V., & Mache, S. (2023). "I think we still do too little": measures to prevent violence and aggression in German emergency departments—a qualitative study. *BMC health services research*, 23(1), 1-16.

The study explored the perspectives and experiences of healthcare professionals in German emergency departments regarding measures taken to prevent and manage violence and aggression from patients and visitors. Researchers cited the need for a better understanding of the effectiveness of preventative measures and what further needs must be made to improve present preventative guidelines and management techniques. One significant barrier in intervention implementation mentioned by the researchers was the lack of a clear consensus on how to create effective training interventions for healthcare workers. Researchers conducted interviews via telephone with doctors and nurses in EDs across Germany regarding their perception of available prevention method effectiveness and future needs in violence prevention measures. The findings were organized into three main factors, environmental, organizational and individual-focused. Additionally, researchers stated that barriers to better preventative measures were often related to financial constraints and high workloads. Overall, the study called for evidence-based guidelines to provide a consensus on agitation management techniques and well-organized security services to promote a sense of safety among hospital staff.

Influencing factors regarding management techniques:

- Environmental
 - Use of alarms and personal emergency devices to increase staffs' sense of safety
 - Increased camera surveillance and door-locking systems to keep violent incidence outside of EDs
- Organizational
 - Availability of security services when needed
 - Effective guidelines and procedures to direct staff on how to manage situations
- Individual-focused
 - Effective training programs regarding violence prevention
 - Promoting patient-centred communication as a preventative measure

38. Tampi, R. R., Tampi, D. J., Farheen, S. A., Ochije, S. I., & Joshi, P. (2022). Propranolol for the management of behavioural and psychological symptoms of dementia. *Drugs in Context*, 11.

The literature review discussed the use of propranolol, a beta-blocker used to treat high blood pressure, as a potential treatment for BPSD (behavioral and psychological symptoms of dementia). The study highlights the importance of balancing between the use of propranolol for non-pharmacological approaches, which have been reported to reduce BPSD severity and caregiver burden, and pharmacological approaches when non-pharmacological approaches are either not available or will not be useful. The study identified propranolol as an effective treatment in reversing stress-related cognitive deficits related to BPSD by blocking the effect of excessive catecholamines, expressing a neuroprotective effect in patients with dementia. Within the case studies explored, individuals responded well to propranolol and improved in BPSD symptoms such as agitation, violent outbursts and wandering. However, the review found limited data on the use of propranolol among individuals with BPSD and identified the need for further trials to assess the efficacy and potential adverse effects of propranolol usage.

389 Tartak, J. A. C., Rodriguez, G., Schwid, M., Meeker, M. A., Thomas, M. D., Roy, H. J., Dadabhoy, F. Z., Molina, M., Chary, A., Bukhman, A. K., Im, D. D., Temin, E. S., & Macias-Konstantopoulos, W. L. (2025). Evaluating the feasibility and effectiveness of an interdisciplinary

verbal de-escalation and implicit bias check training for agitation management in the emergency department. *Risk Management and Healthcare Policy*, Volume 18, 1355–1366.

This publication details the impact of an interdisciplinary training program for emergency department (ED) staff on verbal de-escalation and implicit bias awareness as part of agitation management. It was conducted at an academic medical center in Boston and the aim was to reduce racial bias in restraint usage and improve workplace violence (WPV) prevention. The training course had an hour-long online prerequisite and a 2-hour in-person session covering skills like defensive skills practice, and simulation-based debriefings. Participants completed pre- and post-training surveys, and findings showed a statistically significant improvement in confidence across all agitation management competencies. The integration of simulation scenarios featuring standardized patients of color, combined with consistent implicit bias checks in real time and trauma-informed de-escalation practices offered a racially conscious training framework for ED teams. The program was impactful for staff with less than 5 years of experience, while more experienced staff showed smaller gains, highlighting a potential need for more tailored training for more experienced clinicians.

40. Tat, J. (2023). Anger management: Agitated patients in the ED. *EMOttawa Blog*. <https://emottawablog.com/2023/02/anger-management-agitated-patients-in-the-ed/>

The present article was a blog post that presented a four-step approach to managing acutely agitated patients in EDs. The author stated that the goal of any approach in managing agitated patients was to ensure patient and staff safety, minimize the use of coercive interventions and encourage patients' self-control of their emotions whenever possible. The 4 steps identified different considerations that healthcare workers should make when managing an agitated patient. Healthcare workers should first address agitation and categorize its degree before employing de-escalation techniques that are in accordance with the patient's level of agitation. The article additionally iterates that non-pharmacological approaches should always be considered first when employing de-escalation techniques.

41. Totsikas, M., & Pavia, E. (2023). Positive Behavioural Support. *The Allied Health Scholar*, 4(1).

The present article conducted a literature review to examine existing interventions regarding WPV techniques in an effort to potentially decrease staffing requirements and hospitalization stay length in hospitals in Adelaide, Australia. Researchers conducted a literature review which evaluated current WPV management interventions and shared their results with a panel of occupational therapists and clinical psychologists to identify any gaps in research. The article showcases the importance of listening to the input of hospital staff along with evaluations from field experts and specialists to create effective WPV prevention policy and evidence-based improvement in management techniques. Researchers found that many staff were not formally trained on agitation prevention techniques and did not use formal screening as a preventative measure. As result, the researchers suggested the formation of a new staff role who was specifically tasked with de-escalating violent patients and employing strategies to manage instances of WPV

42. Tripodi, B., Matarese, I., & Carbone, M. G. (2023). A Critical Review of the Psychomotor Agitation Treatment in Youth. *Life*, 13(2), 293.

The article provided a comprehensive evaluation of pharmacological treatment approaches for psychomotor agitation (PA) in children and adolescents. It was mentioned that significant variation exists in effective prescription guidelines for administering antipsychotics for pediatric PA, currently available guidelines exist only for specific medications for specific instances of agitation management. Researchers reviewed primary studies, editorials, book reviews and

review studies to explore the use of various antipsychotics in managing symptoms of pediatric PA. Some of the symptoms stated in the article include autonomic hyper-arousal, hostility and severe irritability regarding impulse dyscontrol. Researchers identified the most commonly used medications as ziprasidone, risperidone, aripiprazole, olanzapine and valproic acid. Overall, the drugs examined in the review displayed acute treatment of PA however only with limited evidence support. It was mentioned that the majority of studies regarded case-control studies and provided little information on treatment follow-up. Researchers called for future studies to evaluate the efficacy ratio and treatment follow-up of drugs for treating pediatric PA.

43. Trzepacz, P. T., Franco, J. G., Meagher, D., Kishi, Y., Sepúlveda, E., Gaviria, A. M., ... & Kean, J. (2023). Delusions and Hallucinations Are Associated With Greater Severity of Delirium. *Journal of the Academy of Consultation-Liaison Psychiatry*, 64(3), 236-247.

The study attempted to examine the relationship between patients displaying symptoms of delirium and the expression of clinical symptoms of psychosis with a focus on the potential presence of hallucinations and delusions within patients expressing delirium. The study identified three core domains of delirium in the analysis; cognitive, higher-order thinking and circadian, and examined whether patients expressing any symptoms within the core domains also exhibited symptoms of psychosis. A cross-sectional analysis of 366 adults with delirium as per the DRS-R98 assessed the relationship of psychosis with other delirium characteristics using bivariate comparisons and ANOVA to compare groups without psychosis and groups with psychosis. The study concluded that symptoms of psychosis were present in 44.5% or 163 patients that were identified to have expressed symptoms of delirium. In addition, they reported a significantly higher symptom severity for the psychotic group in thought process abnormalities and sleep-wake cycle disturbance. The study iterates that psychosis is a marker for overall delirium episode severity and suggested a potential link between psychosis-related neural network dysconnectivity within cases of delirium, citing disruption in the reciprocal switching between the DMN and CEN as a potential explanation behind symptoms of delirium and psychosis.

44. Leppla I, Tobolowsky W, Patel S, Mahdanian A, Lobner K, Caufield-Noll C, Ponor IL, Roy D, Scoping Review on Educational Programs for Medical Professionals on the Management of Acute Agitation, *Journal of the Academy of Consultation-Liaison Psychiatry* (2023), doi: <https://doi.org/10.1016/j.jaclp.2023.05.003>.

The article highlights a review of agitation management studies and curricula designed to teach inpatient healthcare professionals how to manage acute agitation in patients in hospital EDs. Researchers used a PRISMA scoping review methodology and online databases to create a curriculum based on the review of articles discussing agitation management and previously implemented general healthcare provider curriculums in an attempt to better understand what educational programs exist for inpatient healthcare providers and their outcomes. The findings from the review stated that inpatient staff reported increased awareness, confidence and communication regarding agitation management within hospital settings after undergoing completion of agitation management curricula. Additionally, the study found that onsite staff training and simulation / role plays were the most widely used educational strategies in designed curricula. It was also reported that the Hawthorne effect was observed in the students of the curriculum and aided in the implementation of more humane techniques and less coercive measures within agitation management.

45. Wolpert, K. H., Kodish, I., Kim, S. J., & Uspal, N. G. (2023). Behavioral management of children with autism in the emergency department. *Pediatric emergency care*, 39(1), 45-50.

This article highlights the importance of understanding common psychiatric comorbidities within

autism spectrum disorder youth (ASD) youth admitted to ED in hospitals along with the importance of mitigating stressors during the ED visit to prevent behavioral outbursts. Additionally, the article mentions the frequency of suicidality and externalizing behaviors as common behavioral health concerns in ASD youth, noting the importance of mitigating potential stressors in both the ED environment and at home. Low ED wait times, low stimulus spaces, and a calm ED atmosphere provided by the practitioner were suggested to aid in the successful reduction of agitation and aggression symptoms. The article also emphasized the role of adaptive non-pharmacological strategies in effectively managing long-standing behavioral issues as an alternative to hospitalization for acute stabilization and the use of pharmacological interventions.

Classes of interventions in managing agitation in the ED

- Non-pharmacological interventions
 - Psychosocial interventions
 - Physical restraints
- Pharmacological interventions
 - Controlled and purposeful use of medications such as haloperidol and risperidone to treat acute agitation

46. Wong, A. H., Sapre, A. V., Wang, K., Nath, B., Shah, D., Kumar, A., Faustino, I. V., Desai, R., Hu, Y., Robinson, L., Meng, C., Tong, G., Bernstein, S. L., Yonkers, K. A., Melnick, E. R., Dziura, J. D., & Taylor, R. A. (2025). Predicting agitation events in the emergency department through artificial intelligence. *JAMA Network Open*, 8(5), e258927–e258927.

This publication presents a novel study aiming to address the increasing agitation events in emergency departments (EDs) and the difficulty in predicting these events. The study was conducted using electronic health record (EHR) data from over 3 million visits across 9 ED sites in a large US health system. The study developed and trained an agitation-specific AI prediction model. The final version of the model demonstrated good discriminative ability. Key predictors of agitation as expressed through the model included the number of past ED visits, initial vital signs, medical history, main concerns, previous sedation/restraint events, and socioeconomic factors. According to the publication, this is the first study to derive an evidence-based prediction model for the risk of developing agitation specifically in the emergency setting, filling a gap where previous models focused on other environments. The model uses a large dataset and a set of clinical and environmental predictors. Furthermore, the model demonstrated robust and stable performance across various age, sex, and racial/ethnic groups, indicating its applicability and potential to support patient care in an equal way. This model could enhance patient-centered care by enabling preemptive de-escalation and preventing agitation through early identification.

47. Woo, M. Y., & Gantioque, R. (2023). An Obstetric and Psychiatric Emergency: Managing Acute Agitation Among Pregnant Patients in the Emergency Department. *Advanced Emergency Nursing Journal*, 45(4), 301-310.

The article discusses clinical evaluation of different types of nonpharmacologic and pharmacologic interventions when managing acute agitation during pregnancy. It was noted that managing agitation in pregnancy is difficult due to the fear of potential adverse maternal and neonatal outcomes in addition to potential legal risk. Thus, it was mentioned that clinicians are hesitant to prescribe new antepartum medications or to continue necessary psychotropic medications. However, hesitancy to manage symptoms of agitation can put the risk of the patient and the practitioner at risk. The article searched 39 relevant articles for methods of managing agitation in pregnancy and currently used non-pharmacological and pharmacological management methods. Findings from the article emphasized the need for comprehensive behavior assessments, creating safe and comprehensive initial triage assessments and the high

importance recognizing early symptoms of agitation in patients. In terms of de-escalation methods, verbal de-escalation was recognized as the method of patient de-escalation, including offering environmental changes for patients and providing comfort measures. Pharmacologic methods should achieve calm or drowsiness in patients instead of sedation. Monotherapy is recommended to minimize potential adverse effects to the fetus and minimize the risk of fetal malformations. Pharmacologic methods included in the review include first-generation antipsychotics, second-generation antipsychotics, antihistamines and benzodiazepines. The article also supports the use of physical restraints only when as a last resort. It was also noted that physicians should take particularly close note of patient vital signs and should never restrain patients in a prone position.

48. Yau, B. N., Aggarwal, R., Coverdale, J., Anthony, B., Beresin, E. V., & Brenner, A. M. (2023). Beyond psychopharmacology: The interpersonal dynamics of agitation management. *Academic Psychiatry*, 48(1), 1–4.

This publication provides a discussion on overlooked interpersonal dynamics in the management of agitation in psychiatry, specifically focusing on the experiences of psychiatry residents. Though not a traditional research study, the authors draw upon existing literature and clinical experience to specifically explore the dynamics between residents and agitated patients, the treatment team, and the larger residency program. The publication highlights how a resident's personal history, including past trauma and perceived vulnerability, can influence their (the resident's) threshold or willingness for intervention in a violent or aggressive situation. Similarly, patient characteristics and the nature of the therapeutic alliance can also impact a resident's decision-making. The race of the patient is noted as a critical factor, with evidence suggesting Black patients face a disproportionately higher rate of physical and chemical restraints. The authors emphasize the need for training programs to encourage residents to acknowledge their emotional responses to aggressive patients and to implement strategies such as implicit bias training, process groups, cognitive empathy exercises, and self-reflection opportunities to help mitigate the negative influence of these dynamics and biases.

49. Long, C. (2023) Use of behavior management training to improve nurses' confidence in managing patient aggression. *Doctoral Projects*, 12.

This project evaluated the effectiveness of a behaviour management training intervention on improving nurses' and nursing staff's confidence in managing patient aggression. Beyond highlighting the high frequency of experienced workplace violence across various nursing specialties beyond just psychiatric and emergency settings, the publication details a study that was conducted at Tennova's North Knoxville Medical Center (NKMC) in Tennessee. A pre-and-post-test design was used, employing the Confidence in Managing Patient Aggression Scale before and after approximately a 20-minute training session. The training session used STAMP Violence Assessment (this incorporates a framework that nurses use to quickly assess observable behaviour in patients and assess it), and de-escalation techniques through seminars and modelling. The findings of the study revealed statistically significant increases in confidence across all measured areas, with the most improvements in perceived effectiveness of aggression management techniques, ability to physically protect oneself, and feelings of safety and comfort around aggressive patients. This suggests that even a brief, targeted training session can boost nurses' confidence in handling aggressive situations.

50. Yu, B., Lee, J. Y., Kim, Y. B., Park, H. Y., Jung, J., & Jo, Y. Y. (2022). Management of a trauma patient with alcohol withdrawal who developed neuroleptic malignant syndrome: a case report. *Journal of the Korean Society of Traumatology*.

The case study examines the management of a trauma patient with alcohol withdrawal who developed NMS (neuroleptic malignant syndrome) while being transferred to a medical center. The study expressed the importance of correctly identifying symptoms of NMS in patients and early consideration of treatment to prevent further NMS-related complications. A 69-year-old male was admitted to the hospital for alcohol withdrawal and while being transferred to another medical center for repeated episodes of agitation, he jumped out of a first-floor window and sustained several rib fractures. A diagnostic laparotomy was performed and the patient was stabilized during and immediately after the operation. The patient was aggressive and irritable on postop day 1 and was given haloperidol and lorazepam, to which the patient subsequently began to lose consciousness and his temperature rapidly increased, prompting the diagnosis of NMS due to the patient's reaction to the administration of the antipsychotics and an emergency laparotomy was performed as a result. The study iterated the importance of recognizing the symptoms of NMS and suggested that early consideration and treatment of NMS should be made when a patient's medical history is not known. In addition, the importance of advisory from expert staff and knowledge of related symptoms when making effective diagnoses and suggesting treatment were evident in the correct diagnosis of NMS by onsite anesthesiologists despite the presence of symptoms congruent with septic shock and alcohol withdrawal which were ruled out as potential diagnoses. The combination of knowledge of symptoms, correct diagnosis, early considerations of treatment, effective usage of hospital resources, and collaboration amongst hospital staff prove to be effective in managing and de-escalating cases of agitated patients in pharmacological settings in EDs.