Royal United Hospitals Bath
NHS Foundation Trust

# Emergency Department Patient Flow

# Current Awareness Bulletin

## February 2025

Our Current Awareness Bulletins provide details of recently published articles in a given subject. They are a quick and easy way to keep up to date.

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- **Bitesize searching databases for evidence: a quick guide to help you develop your literature searching skills**
  45 minutes. Learn how to transform a question into a search strategy, and how to find the best evidence in a database.

  **Next sessions: 18th March @ 11am, 10th April @ 12 noon & 9th May @ 2pm**

- **Simple and painless evidence into practice (BMJ Best Practice and the LKS Hub)**
  30 minutes. Learn about quick and hassle-free ways to seamlessly incorporate evidence into your daily work.

  **Next sessions: 13th March @ 10am, 11th April @ 11am & 12th May @ 12 noon**

- **Quickfire health literacy – getting your message across**
  30 minutes. Learn about the communication barriers patients may encounter, and ways to ensure they get the most from their care.

  **Next sessions: 4th March @ 12 noon, 2nd April @ 1pm & 15th May @ 2pm**

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**Realising the health mission: from emergency care to prevention**

Reflecting on the patients she met on a shift with the London Ambulance Service, Sarah Woolnough considers what it will take to make the shift towards prevention.

https://www.kingsfund.org.uk/insight-and-analysis/blogs/health-mission-emergency-care-prevention#:~:text=While%20relatively%20early%20in%20development,air%20pollution%2C%20among%20other%20things.

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**Corridor care: 'Devastating testimony' shows patients are coming to harm RCN**

Patients dying in corridors, lack of equipment and unsafe practices are the findings of a new RCN report documenting the experiences of more than 5,000 NHS nursing staff.

Almost 7 in 10 (66.8%) respondents to an RCN survey said they're delivering care in overcrowded and unsuitable places – such as corridors, converted cupboards and even car parks – on a daily basis.

Demoralised nursing staff report caring for as many as 40 patients in a single corridor, unable to access oxygen, cardiac monitors, suction and other lifesaving equipment. They report female patients miscarrying in corridors, while others said they cannot provide adequate or timely CPR to patients having heart attacks.

More than 9 in 10 (90.8%) of those surveyed said patient safety is being compromised.

https://www.rcn.org.uk/news-and-events/news/uk-corridor-care-devastating-testimony-shows-patients-are-coming-to-harm-160125

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**Finding a safe home after hospital: case study research on supported housing and health care partnerships**

This research explores existing evidence on the impact of housing-related delayed hospital discharges and the important role that supported housing can play in preventing delays and alleviating pressure on the NHS. Drawing on a series of case studies, the report showcases how the NHS and supported housing providers are working together to remove barriers to finding a safe home and to support people leaving hospital at the right time for their recovery.

https://www.housing.org.uk/globalassets/files/supported-housing/finding-a-safe-home-after-hospital-final.pdf

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**From hospital to home: Improving patient discharge – Healthwatch**

Every winter, the NHS is under pressure to free up beds. However, getting hospital discharge wrong can harm both patients and services. We look at what people have told us about leaving hospital, and the lessons the NHS can learn to improve the support patients get.

https://www.healthwatch.co.uk/news/2025-02-04/hospital-home-improving-patient-discharge#:~:text=A%20recent%20report%20by%20Healthwatch,effective%20follow%2Dup%20and%20aftercare.

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**New service reduces A&E use by 48% in Somerset**

Somerset NHS Foundation Trust's High Intensity Use service monitors and provides support to patients who frequently use A&E to find non-clinical services that better meet their needs. Clinicians from psychiatric liaison and emergency teams work closely with NHS Somerset ICB and the Community Council for Somerset, bringing patients a better quality of life as well as reducing pressures on frontline services.

https://www.nationalhealthexecutive.com/articles/service-makes-remarkable-impact-emergency-attendances

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1. **Development of an emergency department triage tool to predict admission or discharge for older adults**

**Authors:** Abugroun, Ashraf;Awadalla, Saria;Singh, Sanjay and Fang, Margaret C.

**Publication Date:** 2025

**Journal:** International Journal of Emergency Medicine 18(1), pp. 1–9

**Abstract:** Background: Older adults present to Emergency Departments (ED) with complex conditions, requiring triage models that support effective disposition decisions. While existing models perform well in the general population, they often fall short for older patients. This study introduces a triage model aimed at improving early risk stratification and disposition planning in this population. Methods: We analyzed the National Hospital Ambulatory Medical Care Survey data (2015–2019) for ED patients aged ≥ 60 years, excluding those who died in the ED or left against medical advice. Key predictors were identified using a two-step process combining LASSO and backward stepwise selection. Model performance was evaluated using AUC and calibration plots, while clinical utility was assessed through decision curve analysis. Risk thresholds ( 0.5) stratified patients into low, moderate, and high-risk groups, optimizing the balance between sensitivity and specificity. Results: Of 13,431 patients, 3,180 (23.7%) were admitted. Key predictors for admission included ambulance arrival, chronic conditions, gastrointestinal bleeding, and abnormal vital signs. The model showed strong discrimination (AUC 0.73) and good calibration, validated by 10-fold cross-validation (mean AUC 0.73, SD 0.02). Decision curve analysis highlighted net benefit across clinically relevant thresholds. At thresholds of 0.1 and 0.5, the model identified 18.9% as low-risk (91.2% accuracy) and 7.9% as high-risk (57.7%). Adjusting thresholds to 0.2 and 0.4 expanded low-risk (55.4%, 87.9% accuracy) and high-risk (14.1%, 53.7% accuracy) groups. Conclusions: This older adult–focused risk score uses readily available data to enhance early discharge, prioritize admissions for high-risk patients, and enhance ED care delivery. Highlights: Readily available triage data predict hospital admission in older adult ED patients. Key predictors include chief complaint, ambulance arrival, comorbidities, and vital signs. The Hospital Admission Model effectively stratifies patients into low- and high-risk groups. At a 0.2 threshold, 55% of patients were classified as low risk with 88% accuracy. At a 0.5 threshold, 8% of patients were classified as high risk with 58% accuracy.

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2. **Predicting emergency department admissions using a machine-learning algorithm: a proof of concept with retrospective study**

**Authors:** Brossard, Cyrielle;Goetz, Christophe;Catoire, Pierre;Cipolat, Lauriane;Guyeux, Christophe;Gil Jardine, Cédric;Akplogan, Mahuna and Abensur Vuillaume, Laure

**Publication Date:** 2025

**Journal:** BMC Emergency Medicine 25(1), pp. 1–11

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3. **Being a patient in a crowded emergency department: a qualitative service evaluation**

**Authors:** Craston, Alex I. P.;Scott-Murfitt, Harriet;Omar, Mariam T.;Abeyratne, Ruw;Kirk, Kate;Mackintosh, Nicola;Roland, Damian and van Oppen, James David

**Publication Date:** 2025

**Journal:** Emergency Medicine Journal : EMJ 42(3), pp. 148–153

**Abstract:** Background: Emergency department (ED) crowding causes increased mortality. Professionals working in crowded departments feel unable to provide high-quality care and are predisposed to burnout. Awareness of the impact on patients, however, is limited to metrics and surveys rather than understanding perspectives. This project investigated patients' experiences and identified mitigating interventions.; Methods: A qualitative service evaluation was undertaken in a large UK ED. Adults were recruited during periods of high occupancy or delayed transfers. Semi-structured interviews explored experience during these attendances. Participants shared potential mitigating interventions. Analysis was based on the interpretative phenomenological approach. Verbatim transcripts were read, checked for accuracy, re-read and discussed during interviewer debriefing. Reflections about positionality informed the interpretative process.; Results: Seven patients and three accompanying partners participated. They were aged 24-87 with characteristics representing the catchment population. Participants' experiences were characterised by 'loss of autonomy', 'unmet expectations' and 'vulnerability'. Potential mitigating interventions centred around information provision and better identification of existing ED facilities for personal needs.; Conclusion: Participants attending a crowded ED experienced uncertainty, helplessness and discomfort. Recommendations included process and environmental orientation.; Competing Interests: Competing interests: None declared. (© Author(s) (or their employer(s)) 2025. No commercial re-use. See rights and permissions. Published by BMJ Group.)

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4. **Effective strategies for reducing patient length of stay in the emergency department: a systematic review and meta-analysis**

**Authors:** Devia Jaramillo, German;Esmeral Zuluaga, Nathalia and Velandia Avellaneda, Viviana Andrea

**Publication Date:** 2025

**Journal:** BMC Emergency Medicine 25(1), pp. 1–11

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5. **Oakland score to identify low-risk patients with lower gastrointestinal bleeding performs well among emergency department patients**

**Authors:** DiLena, Daniel D.;Bouvet, Sean C.;Somers, Madeline J.;Merchant, Maqdooda A.;Levin, Theodore R.;Rauchwerger, Adina S. and Sax, Dana R.

**Publication Date:** 2025

**Journal:** International Journal of Emergency Medicine 18(1), pp. 1–10

**Abstract:** Background: The Oakland Score predicts risk of 30-day adverse events among hospitalized patients with lower gastrointestinal bleeding (LGIB) possibly identifying patients who may be safe for discharge. The Oakland Score has not been studied among emergency department (ED) patients with LGIB. The Oakland Score composite outcome includes re-bleeding, defined as additional blood transfusion requirements and/or a further decrease in hematocrit (Hct) >/= 20% after 24 h in clinical stability; red blood cell transfusion; therapeutic intervention to control bleeding, including surgery, mesenteric embolization, or endoscopic hemostasis; in-hospital death, all cause; and re-admission with further LGIB within 28 days. Prediction variables include age, sex, previous LGIB admission, systolic blood pressure, heart rate, and hemoglobin concentration, and scores range from 0 to 35 points, with higher scores indicating greater risk. Methods: Retrospective cohort study of adult (≥ 18 years old) patients with a primary ED diagnosis of LGIB across 21 EDs from March 1st, 2018, through March 1st, 2020. We excluded patients who were more likely to have upper gastrointestinal bleeding (esophago-gastroduodenoscopy without LGIB evaluation), patients who left against medical advice or prior to ED provider evaluation, ED patients without active health plan membership, and patients with incomplete Oakland Score variables. We assessed predictive accuracy by reporting the area under the receiver operator curve (AUROC) and sensitivity, specificity, positive and negative predictive values, and positive and negative likelihood ratios at multiple clinically relevant thresholds. Results: We identified 8,283 patients with LGIB, 52% were female, mean age was 68, 49% were non-White, and 27% had an adverse event. The AUROC for predicting an adverse event was 0.85 (95% CI 0.84–0.86). There were 1,358 patients with an Oakland Score of

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6. **Diagnostic value of FAST ankle ultrasound compared to standard radiography for fracture detection in the emergency department by non-radiologist physicians: a monocentric prospective diagnostic cohort study**

**Authors:** Frezals, Laeticia Vaiana;Delafontaine, Arnaud;Scoubeau, Hélène;Sontou, Régis;Moorthamers, Sofie;Plumacker, Antoine and Plumacker, Alain

**Publication Date:** 2025

**Journal:** European Journal of Trauma & Emergency Surgery 51(1), pp. 1–10

**Abstract:** Purpose: The goal of this study was to assess the diagnostic value of FAST ankle ultrasound, performed by non-radiologist specialist physicians, compared to standard X-ray imaging for ankle and foot trauma in the emergency department. Additionally, we analyzed whether other variables, such as demographic characteristics of the included patients, could influence fracture detection with the diagnostic tools used. Methods: A non-randomized monocentric prospective diagnostic cohort study was conducted on 143 patients. Results: Ankle and foot fractures were more frequently detected by FAST ultrasound compared to standard radiography. Regarding the influence of demographic factors, age and the correlation between Body Mass Index and age significantly influenced the ability to detect fractures. Conclusion: FAST ultrasound demonstrated good diagnostic value in routine clinical practice for screening purposes and could be easily applied by non-radiologist specialist physicians. Implementing this approach may reduce time and costs in patient management, thereby aiding in alleviating triage congestion in the emergency department. Trial registration number and date of registration for prospectively registered trials: NCT05528432; 21-02-21.

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7. **Barriers and enablers to nurse-initiated care in emergency departments: An embedded mixed methods survey study**

**Authors:** Gawthorne, Julie;Curtis, Kate;Fry, Margaret;Mccloughen, Andrea and Fethney, Judith

**Publication Date:** 2025

**Journal:** Australasian Emergency Care 28(1), pp. 12–23

**Abstract:** Background: Increased demand, wait times and length of stay have seen many emergency departments implement nurse-initiated protocols In New South Wales, Australia, 74 nurse-initiated protocols have been developed for implementation. The aim of this paper is to identify the barriers and enablers to nurses' use of these protocols to inform and maximise future implementation.; Methods: Data were collected via surveys informed by the theoretical domains' framework and the Practice Environment Scale of the Nursing Work Index (PES-NWI). Descriptive statistics summarised quantitative data and content analysis was performed on qualitative data. Results were integrated and classified as barriers or enablers to nurses' use of protocols.; Results: The nurses' response rate was 82 % (n = 76) and doctors 72 % (n = 34) Six categories were generated; one barrier (lack of resources), three enablers (patient and organisational benefits, nurses' motivation, nurses' desire to develop their practice) and two were both a barrier and enabler ( nurse confidence and the work environment).; Conclusion: Emergency nurses are highly motivated to use nurse-initiated protocols to positively impact patient outcomes. However, a lack of resources, time, access to education and confidence are barriers to use that need to be addressed when designing implementation.; Competing Interests: Declaration of Competing Interest We declare author Prof Kate Curtis is an Associate Editor and Prof Margaret Fry is a Senior Editor for the Australasian Emergency Care. 

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8. **Effect of emergency department opioid prescribing on health outcomes**

**Authors:** Hayward, Jake;Rosychuk, Rhonda J.;McRae, Andrew D.;Sinnarajah, Aynharan;Dong, Kathryn;Tanguay, Robert;Montgomery, Lori;Huang, Andrew and Innes, Grant

**Publication Date:** 2025

**Journal:** Canadian Medical Association Journal (CMAJ) 197(5), pp. E122–E130

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9. **Enhancing Emergency Department Triage Equity With Artificial Intelligence: Outcomes From a Multisite Implementation**

**Authors:** Hinson, Jeremiah S.;Levin, Scott R.;Steinhart, Benjamin D.;Chmura, Christopher;Sangal, Rohit B.;Venkatesh, Arjun K. and Taylor, R. A.

**Publication Date:** 2025

**Journal:** Annals of Emergency Medicine 85(3), pp. 288–290

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10. **The inter-rater reliability of emergency department and paramedic frailty screening in older patients following a fall**

**Authors:** Indrawan, Nikita;Ellis, Jason;Finn, Judith and Arendts, Glenn

**Publication Date:** 2025

**Journal:** Australasian Emergency Care 28(1), pp. 63–66

**Abstract:** Background: Screening for frailty in the emergency setting may be useful in directing patients to appropriate management pathways. The main aim of this study was to assess the inter-rater reliability of the Clinical Frailty Scale between paramedics and emergency department staff (doctors and allied heath) for patients after a fall. Secondarily, to assess how these scores correlate with patient outcomes.; Methods: A prospective study of older patients arriving by ambulance to a single hospital in Western Australia following a fall. The inter-rater reliability was assessed using a weighted Cohen's κ. The relationship between Clinical Frailty Scale and secondary outcomes were assessed using chi-squared and Kruskal-Wallis tests.; Results: Data from 94 patients were included, the mean age was 82 years and 64 % were female. The inter-rater reliability between paramedics and emergency department staff using the Clinical Frailty Scale was moderate (κ 0.48 (95 % CI 0.36-0.59)).; Conclusions: There is only moderate agreement between emergency department staff and paramedics when screening for frailty in patients who present after a fall. The findings indicate the need to improve reliability as a pre-requisite to the use of frailty screening in emergency settings.; Competing Interests: Declaration of Competing Interest The authors have no conflict of interest to declare for this study. 

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11. **Care for older adults living with dementia in the emergency department: a systematic review and meta-synthesis of care partner roles and perspectives**

**Authors:** Jelinski, Dana;Fernandes, Brooklynn;Reich, Krista;Lang, Eddy;Holroyd-Leduc, Jayna and Goodarzi, Zahra

**Publication Date:** 2025

**Journal:** Emergency Medicine Journal : EMJ 42(3), pp. 154–163

**Abstract:** Objective: Care partners play a vital role in supporting persons living with dementia (PLWD) in using medical services. We conducted a meta-synthesis to explore care partner perspectives of ED care for PLWD, as well as healthcare provider (HCP) perceptions of care partner roles within the ED, to identify care gaps and facilitators across the ED continuum.; Methods: MEDLINE, PsycINFO and Embase databases were searched from inception to 8 May 2023. Grey literature was also searched. Articles were included if they reported on care partner roles or experiences regarding care delivery for PLWD in the ED, either from the perspective of care partners or HCPs. A charting exercise was used to categorise the primary focus and outcomes of the articles selected for inclusion. A second charting exercise was used to derive overarching themes based on care partner roles in ED care for PLWD, and care partner perspectives surrounding barriers and facilitators to care.; Results: 16 articles were included. Important barriers and facilitators to care for PLWD were identified and organised according to the timepoint of the visit (pre-ED, during a visit and post-ED). Key care gaps and barriers to care included: gaps in primary care access and care planning, ED environment and organisational processes, deficits in communication regarding patient care, lack of care partner involvement in clinical decisions, and difficulties with discharge transitions and follow-up care. Key facilitators to care included: clinical information provided by care partners, care coordination, and care partner support and engagement.; Conclusion: These findings can aid in developing dementia-friendly EDs by informing policy and practices, as well as environmental modifications. Future studies should focus on the feasibility and effectiveness of interventions targeted towards EDs and primary care settings. Engagement of care partners in these intervention studies will be critical to their success.; Competing Interests: Competing interests: BF received scholarship payments for the Alberta Health Services Provincial Seniors Health and Continuing Care Award for the duration of this project. ZG has received grants/contracts from the Canadian Institutes of Health Research, the Hotchkiss Brain Institute and the O’Brien Institute for Public Health within the past 36 months. ZG has also received payment/honoraria from the Canadian Coalition of Seniors Mental Health. 

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12. **A systematic review of psychological distress reduction programs among nurses in emergency departments**

**Authors:** Jiang, Ping;Jia, Yawen;Yang, Xinyan;Duan, Wenjie;Ning, Yuping;Zhou, Yan;Cao, Yinghua;Du, Jinping;Xi, Fengqun and Huang, Liwen

**Publication Date:** 2025

**Journal:** BMC Nursing 24(1), pp. 1–20

**Abstract:** Background: Emergency department (ED) nurses experience high levels of psychological distress. Practical programs that alleviate psychological distress are essential for enhancing the mental well-being of nurses, which in turn can mitigate the potential adverse effects on the quality of emergency care. However, no systematic review has been conducted. Aim: This study aims to systematically summarize the evidence-based psychological distress reduction programs for ED nurses. Methods: A systematic search of Web of Science, Scopus, PubMed, and China National Knowledge Infrastructure (CNKI) was conducted for randomized controlled trials published until April 10, 2023. The review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement, and the quality of the qualified studies was assessed using the Cochrane RoB 2 tool. Results: A total of 29 studies were eligible with 2058 participants. Three primary kinds of interventions have been identified: psychological interventions targeting the reduction of psychological distress symptoms, educational programs designed to enhance the coping skills of ED nurses, and organization-directed interventions aimed at alleviating stressors. Collectively, these interventions have contributed significantly to the reduction of stress, depression, anxiety, burnout, and post-traumatic stress disorder while also improving life satisfaction and overall quality of life. Conclusion: Three types of interventions have provided pathways to alleviate the psychological stress of ED nurses at various levels. Future efforts should refine interventions for ED nurses' psychological distress, evaluate their long-term benefits, and explore organizational strategies to promote healthier workplaces. Policymakers and administrators must support these initiatives, focusing on prevention and empowerment.

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13. **Health screening and its association with emergency department visits and related costs among home-dwelling older adults**

**Authors:** Kanninen, Jonna-Carita;Kautiainen, Hannu and Holm, Anu

**Publication Date:** 2025

**Journal:** Scandinavian Journal of Primary Health Care 43(1), pp. 209–218

**Abstract:** Background: The aim of this study was to evaluate the effectiveness of the health screening procedure for home-dwelling older adults in reducing emergency department visits and associated costs. Methods: Data were derived from health screenings from 2020 to 2021 for 75-year-old home-dwelling residents of Western Finland. The study compared emergency department visits and associated costs between older adults who participated in the health screening (intervention group) and those who did not (non-intervention group). For each older adult, three non-intervention controls were matched according to age, sex, health screening year and wellbeing service county. Emergency department visits and International Classification of Diseases (ICD)-10 codes from one year before to two years after health screening were analyzed. Results: In the non-intervention group, a 19% increase in emergency visit rates was seen (457–564 per 1000 person-years), while the intervention group showed a 67% decrease (165–23). Annual costs for the non-intervention group increased from 148 euros (€) to €183, a mean ratio increase of 1.24 per person-year (range 1.08–1.40). In contrast, the intervention group's costs decreased from €53 to €8, a mean reduction ratio of 0.15 per person-year

(range 0.10–0.71). The intervention group had lower frequency of visits for respiratory and circulatory diseases but higher for digestive and metabolic diseases, unlike the non-intervention group. Conclusions: The implementation of the health screening is an effective strategy for reducing both the frequency of emergency department visits and associated costs in home-dwelling older adults in good condition.

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14. **Emergency Department Vestibular Rehabilitation Therapy for Dizziness and Vertigo: A Nonrandomized Clinical Trial**

**Authors:** Kim, Howard S.;Schauer, Jacob M.;Kan, Ann K.;Alinger, Joshua B.;Strickland, Kyle J.;Garreau, Alexander;McCarthy, Danielle M.;Taylor, Zachary B.;Fishman, Ivy L.;Muschong, Kayla M. and Roth, Heidi R.

**Publication Date:** 2025

**Journal:** JAMA Network Open 8(2), pp. e2459567

**Abstract:** Key Points: Question: What is the feasibility of offering vestibular therapy for patients presenting to the emergency department (ED) with dizziness and collecting longitudinal patient-reported outcomes? Findings: In this nonrandomized clinical trial of 125 patients with dizziness, ED physical therapists successfully applied a protocolized diagnostic classification and treatment algorithm. Patients receiving ED vestibular therapy reported greater improvements in dizziness handicap, vestibular activities avoidance, and sedating medication use during 3 months of follow-up, although the differences were not statistically significant in this pilot trial. Meaning: The findings of this trial suggest that ED vestibular therapy is feasible and may improve patient-reported dizziness symptoms over time; this pilot trial establishes the need for a fully powered randomized clinical trial of ED vestibular therapy for dizziness and vertigo. Importance: Dizziness symptoms account for nearly 2 million annual emergency department (ED) visits and present a diagnostic challenge for clinicians. Most dizziness research has focused on improving guideline-concordant care among clinicians, with little focus on developing patient-centered interventions to improve dizziness-related disability. Objective: To examine the feasibility of ED vestibular rehabilitation therapy (ED-VeRT) using a protocolized diagnostic classification algorithm and collection of longitudinal patient-reported outcomes. Design, Setting, and Participants: A pilot nonrandomized clinical trial of ED-VeRT vs usual care for patients presenting to the ED with dizziness at a single urban US ED was conducted from November 16, 2021, to February 6, 2023, with collection of 3-month outcomes through May 1, 2023. Patients were allocated to ED-VeRT or usual care at the discretion of the treating physician. Interventions: Use of ED-VeRT was delivered by an ED physical therapist via a protocolized diagnostic classification and treatment algorithm based on a diagnosis of benign paroxysmal positional vertigo, triggered undifferentiated dizziness, spontaneous undifferentiated dizziness, or unilateral peripheral hypofunction. Main Outcomes and Measures: Feasibility outcomes included participant screening, enrollment, and retention rates to inform the design of a future randomized clinical trial; retention was defined as completing any of 4 follow-up surveys over 3 months. The primary efficacy outcome was change in the Dizziness Handicap Inventory score; the secondary efficacy outcome was change in the Vestibular Activities Avoidance Inventory-9 score. Results: Of 366 patients screened, 125 participants were enrolled (median age, 52 IQR, 40-66] years, 73 58%] female, 61 49%] White), and 105 retained (84.0%) in longitudinal data collection. Sixty-three participants (50.4%) received ED vestibular therapy and were assigned to primary diagnostic classifications of benign paroxysmal positional vertigo (23 37.1%]), triggered undifferentiated dizziness (14 22.6%]), spontaneous undifferentiated dizziness (14 22.6%]), or unilateral peripheral hypofunction (9 14.5%]). Despite having higher Dizziness Handicap Inventory and Vestibular Activities Avoidance Inventory scores at baseline, ED-VeRT participants reported lower dizziness handicap (difference: −1.68; 95% CI, −11.30 to 7.90) and vestibular activities avoidance (difference: −2.27; 95% CI, −8.40 to 3.86) at 3 months, although these differences were not statistically significant. Conclusions and Relevance: In this nonrandomized clinical trial, ED vestibular

therapy was feasibly delivered to patients presenting to the ED with undifferentiated dizziness symptoms. For participants receiving vestibular therapy the findings for dizziness-related disability over 3 months were not statistically significant, pointing to the need for a fully powered randomized clinical trial. Trial Registration: ClinicalTrials.gov Identifier: NCT05122663 This nonrandomized clinical trial evaluates the use of vestibular therapy administered in the emergency department to patients presenting with dizziness.

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15. **Early Identification and Referral of Patients With Diabetic Foot Complications in the Emergency Department**

**Authors:** Liu, AnChi;Stevenson, Eleanor;Menchine, Michael;Mallett, Sheila and Castillo, Christina

**Publication Date:** 2025

**Journal:** Journal of Nursing Care Quality 40(2), pp. 138–143

**Abstract:** Background: Prolonged length of stay (LOS) in the emergency department (ED) and lack of post-ED follow-up pose a risk of worsening infection and amputation among patients with diabetic foot complications.; Local Problem: Excessive ED LOS posed a risk of delayed foot care, and triage providers underutilized post-ED telehealth referrals.; Interventions: A graphic icon on the ED dashboard, nurse-initiated order set, and staff education were implemented.; Methods: A pre-/postimplementation design was used. Outcomes included usage of the graphic icon and order set, ED LOS, and telehealth referrals.; Results: Use of the graphic icon and order sets significantly increased ( P < .001). The rate of telehealth referrals upon discharge also increased but was not significant ( P = .086). Interestingly, LOS increased after the intervention.; Conclusion: Using the graphic icon and order set can streamline patient referral to telehealth care. Various factors lead to an extended LOS.; Competing Interests: The authors declare no conflict of interest. 

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16. **Risk factors for emergency department visits and readmissions for postpartum hypertension**

**Authors:** Mei, Jenny Y.;Alexander, Sabrina;Muñoz, Hector,E. and Murphy, Aisling

**Publication Date:** 2025

**Journal:** The Journal of Maternal-Fetal & Neonatal Medicine : The Official Journal of the European Association of Perinatal Medicine, the Federation of Asia and Oceania Perinatal Societies, the International Society of Perinatal Obstetricians 38(1), pp. 2451662

**Abstract:** Objective: Postpartum hypertension accounts for 15 to 20% of postpartum Emergency Department (ED) visits and readmissions in the United States. Postpartum readmission is a quality metric and target of quality improvement as it indicates poor control of hypertension and can portend increased morbidity. We aim to evaluate risk factors for postpartum ED visits and readmissions for hypertension.; Methods: This was a retrospective cohort study of all birthing patients with peripartum hypertension at a single tertiary care center over a 5-year period (2017-2022). Inclusion criteria were age 18 years or above, existing diagnosis of chronic hypertension or hypertensive disease of pregnancy diagnosed during the intrapartum or postpartum course, and both delivery and ED visit or readmission at the study institution. Maternal baseline and intrapartum characteristics were chart abstracted. Primary outcome was ED visit or readmission (EDR) for postpartum hypertension. Patients who had EDR within 42 days of delivery were compared to those who underwent routine outpatient surveillance. For all analyses, p values were two-way, and the level of statistical significance was set at p  50% elevated blood pressures within the 24 h prior to discharge (16.5% vs 11.9%, p  = 0.046). In a

multivariable logistic regression controlling for prenatal aspirin use, mode of delivery, postpartum hemorrhage, and chorioamnionitis, a higher risk of EDR remained for maternal age ≥40 years (aOR, 1.56; 95% confidence interval (CI), 1.11-2.20; p = 0.011), PO anti-hypertensives at discharge (aOR, 4.05; 95% CI, 2.86-5.73; p < 0.001), preeclampsia with severe features (aOR, 2.50; 95% CI, 1.83-3.42; p < 0.001), and history of IV anti-hypertensive exposure (aOR, 9.30; 95% CI, 6.20-13.95; p < 0.001).; Conclusions: Maternal age of 40 years and above, chronic hypertension, preeclampsia with severe features, prescription of anti-hypertensives on discharge, and elevated blood pressures leading up to discharge are associated with postpartum ED visits or readmissions for hypertension. Risk factor identification can aid in the development of predictive tools to determine high risk groups and interventions to reduce ED visits and readmissions.

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17. **Cannabis Use Disorder Emergency Department Visits and Hospitalizations and 5-Year Mortality**

**Authors:** Myran, Daniel T.;Pugliese, Michael;McDonald, André J.;Xiao, Jennifer;Fischer, Benedikt;Finkelstein, Yaron;Tanuseputro, Peter;Firth, Joseph;Pakpour, Amir;Hsu, Chih-Wei;Chang, Wing-Chung and Solmi, Marco

**Publication Date:** 2025

**Journal:** JAMA Network Open 8(2), pp. e2457852

**Abstract:** Key Points: Question: Are individuals who have hospital-based (emergency department or hospitalization) care for a cannabis use disorder (CUD) at increased risk of death? Findings: In this cohort study of 11.6 million people studied for a median of 5 years, individuals with incident hospital-based care for a CUD were at a 2.8-fold increased risk of death within 5 years relative to the general population. Meaning: These results suggest that individuals who require hospital-based care for a CUD may be at increased risk of premature death. This cohort study investigates whether incident hospital-based care (an emergency department ED] visit or hospitalization) for cannabis use disorder is associated with increased risk of death among individuals in Ontario, Canada. Importance: Cannabis use disorders (CUD) are associated with adverse health effects, including mental disorders and motor vehicle collision-related injuries. However, little is known about whether CUDs are associated with increased mortality risk. Objective: To examine whether individuals receiving incident hospital-based care (an emergency department visit or hospitalization) for a CUD is associated with increased risk of death. Design, Setting, and Participants: This population-based retrospective cohort study included all individuals aged 15 to 105 years living in Ontario, Canada, between 2006 and 2021 (n = 11 622 571 individuals). Overall and cause-specific mortality were compared between individuals with incident hospital-based CUD care and age- and sex-matched members of the general population or individuals with hospital-based care for other substance use disorders using cause-specific hazard models adjusted for comorbid mental health, substance use, and chronic health conditions. Statistical analysis was performed from September to December 2024. Exposure: Incident hospital-based CUD care. Main Outcomes and Measures: Overall and cause-specific mortality identified using vital statistics. Results: The matched analysis included 527 972 individuals (mean SD] age, 29.9 13.6] years; 330 034 62.5%] female) with a median (IQR) follow-up of 5 (3-9) years; 106 994 had incident CUD. Within 5 years of incident hospital-based CUD care, 3770 individuals (3.5%) died compared with 3770 (0.6%) of matched general population members. After adjusting for comorbid conditions, individuals with incident hospital-based CUD care were at increased risk of death relative to the general population (adjusted hazard ratio aHR], 2.79 95% CI, 2.62-2.97]). Individuals with hospital-based CUD care were at increased risk of all investigated types of death and particularly elevated risk of death by suicide (aHR, 9.70 95% CI, 6.04-15.57]), trauma (aHR, 4.55 95% CI, 3.55-5.82]), opioid poisoning (aHR, 5.03 95% CI, 2.86-8.84]), other drug poisonings (aHR, 4.56 95% CI, 3.11-6.68]), and lung cancer (aHR, 3.81 95% CI, 2.39-6.07]) relative to the general population. Compared with an individual with hospital-based care for CUD, individuals with hospital-based care for alcohol (aHR, 1.30 95% CI, 1.26-1.34]), stimulants

(aHR, 1.69 95% CI, 1.62-1.75]), and opioids (aHR, 2.19 95% CI, 2.10-2.27]) were at relatively increased risk of death within 5 years. Conclusions and Relevance: In this cohort study of all residents of Ontario, Canada, individuals with incident hospital-based CUD care were at markedly increased risk of death compared with the general population. These findings suggest important clinical and policy implications, given global trends toward cannabis legalization and market commercialization accompanied by increasing cannabis use and CUDs.

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18. **Family members' experiences of bereavement in the emergency department: A meta-synthesis of qualitative studies**

**Authors:** Peng, Yingxin;Wu, Haoming;Zhang, Min and Huang, Ping

**Publication Date:** 2025

**Journal:** Death Studies 49(3), pp. 300–311

**Abstract:** The emergency department (ED) is one of the places where patient deaths frequently occur. Understanding family members' experiences of bereavement would help provide individualized bereavement care. We conducted a meta-synthesis to synthesize family members' experiences of bereavement in the ED and assess the impact of bereavement on their lives. We searched seven international electronic databases. Five studies were selected and critically appraised. Thematic analysis was employed. Five themes (with 13 subthemes) were derived: suffering sudden changes and are severely impacted, multiple feelings and needs of waiting, final farewell, personal and family difficulties after leaving the ED, and journey through grief. Family members endured agonizing waits to see and learn more about their family members' condition. Family members reported the need for effective follow-up resources. Findings revealed that it would be helpful if the EDs could provide sensitive and respectful care to family members.

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19. **Protecting Frontline Workers: Strategies for Preventing and Mitigating Violence in the Emergency Department**

**Authors:** Rabin, Sabrina;Akinfemiwa, Ololade;Bradley, Miranda;Clayton, Galeta Carolyn;Cozzi, Nicholas and Gottlieb, Michael

**Publication Date:** 2025

**Journal:** Annals of Emergency Medicine 85(3), pp. 263–269

**Abstract:** Violence in the emergency department (ED) has been escalating for decades worldwide. High-stress situations are commonplace in the ED and can lead to intentional and unintentional aggression from patients. Staff must be educated on the signs of violence and escalation to recognize potentially dangerous situations early. Staff must also identify underlying medical conditions as the source of unintentional violence. Both situations would require different approaches to management. ED violence negatively affects patient care and leads to long-term harmful outcomes for staff. Multiple strategies for mitigation and prevention have been explored in the literature. Among those, weapon detection systems, de-escalation training, and violence prevention programs have demonstrated improved staff outcomes and decreased violence. Formalized procedures and policies should clearly assign roles for each staff member in the event of a violent patient. Training programs should be instituted and may include self-defense classes or crisis intervention courses. Emergency medicine residency programs and EDs around the country must address the rising incidence of violence within EDs through interdisciplinary policy, procedure development, and prevention and mitigation programs. 

20. **Strengthening emergency department response to chemical, biological, radiological, and nuclear disasters: A scoping review**

**Authors:** Ranse, Jamie;Mackie, Benjamin;Crilly, Julia;Heslop, David;Wilson, Bridget;Mitchell, Marion;Weber, Sarah;Watkins, Nathan;Sharpe, Joseph;Handy, Michael;Hertelendy, Attila;Currie, Jane and Hammad, Karen

**Publication Date:** 2025

**Journal:** Australasian Emergency Care 28(1), pp. 37–47

**Abstract:** Natural hazards resulting in disasters are increasing globally, impacting communities and disrupting industries. In addition to planning for these natural hazard disasters, emergency departments (EDs) should prepare for chemical, biological, radiological, and nuclear (CBRN) incidents that result in surges of patient presentations. Chemical, biological, radiological, and nuclear incidents differ in preparedness to natural hazards, requiring an understanding of patient management and health system-related challenges. This scoping review used the Arksey and O'Malley five-step framework. Manuscripts were retrieved from four databases and search engines using keywords relating to impacts on the ED from real world CBRN event(s). Analysis focused on the characteristics of CBRN event, ED impact, and lessons learnt against four surge capacity domains that including staff, stuff, space, and systems. A total of 44 paper were included in this review. Most of the incidents were chemical in nature (n = 36/44, 81.8 %). The majority of CBRN incidents were accidental (n = 34/44, 77.3 %). Between 1 and 1470 people (Mdn=56, IQR: 18–228) presented to an ED from each event. Most patients were discharged from the ED, but this was variably reported. Some key lessons related to secondary exposure to ED staff, repurposing spaces, and coordination of CBRN incidents. With the increasing number of CBRN incidents, strategies to strengthen EDs and limit the impact from a surge in patient presentations are paramount. An understanding of local CBRN risk to inform a top-hazards approach to CBRN preparedness, and the implementation of pre-emptive CBRN clinical pathways is recommended. Additionally, strategies should be implemented to protect staff from the risk of secondary exposure to a CBRN event. These strategies may include adequate education, training, and personal protective equipment for staff.

21. **Performance of machine learning models in predicting difficult laryngoscopy in the emergency department: a single-centre retrospective study comparing with conventional regression method**

**Authors:** Srivilaithon, Winchana and Thanasarnpaiboon, Pichamon

**Publication Date:** 2025

**Journal:** BMC Emergency Medicine 25(1), pp. 28

**Abstract:** Background: Emergency endotracheal intubation is a critical skill for managing airway emergencies in the emergency department (ED). Accurate prediction of difficult laryngoscopy is essential for improving first-attempt success, minimizing complications, optimizing resource utilization, and enhancing patient outcomes. Traditional methods, such as the LEMON criteria, have limited predictive accuracy. Machine learning (ML) offers advanced predictive capabilities by analyzing large datasets and identifying complex variable interactions. This study aimed to develop and validate the performance of ML models for predicting difficult laryngoscopy in the ED, comparing it with a conventional regression model.; Methods: A retrospective cohort study was conducted on 4,370 adult patients who underwent intubation in the ED at Thammasat University Hospital. Difficult laryngoscopy was defined as a Cormack-Lehane grade III or IV. Patients were divided into development (training,

70%) and validation (testing, 30%) cohorts. Predictors of difficult laryngoscopy were identified using multivariable stepwise backward elimination logistic regression and were used to develop ML models, including Logistic Regression, Decision Tree, Random Forest, and XGBoost. Model performance was evaluated using the area under the receiver operating characteristic curve (AuROC), accuracy, precision, recall, and F1-score. Validation was performed on the validation cohort to confirm model accuracy.; Results: Nine significant predictors were identified: male sex, trauma, absence of neuromuscular blocking agents, large incisors, large tongue, limited mouth opening, short thyrohyoid distance, obstructed airway, and poor neck mobility. The Random Forest model demonstrated the highest predictive performance, with an AuROC of 0.82 (95% CI: 0.78-0.85), accuracy of 0.89, recall of 0.89, and F1-score of 0.87, outperforming conventional regression (AuROC 0.76, 95% CI: 0.73-0.78) and other ML models. DeLong's test confirmed a statistically significant difference in AuROC between the two models ($p = 0.002$). The Decision Tree showed limited performance due to overfitting, while XGBoost demonstrated strong precision. No significant differences were found when comparing the two models with conventional regression ($p = 0.498$ and 0.496, respectively).; Conclusion: The Random Forest model provides the most robust prediction of difficult laryngoscopy, outperforming both conventional and other ML methods. While ML models improve predictive accuracy, logistic regression remains a practical option in resource-limited settings. Integrating ML into clinical workflows could enhance decision-making, resource allocation, and patient safety in emergency airway management. Future research should prioritize external validation and real-world implementation.; Competing Interests: Declarations. Consent for publication: Not applicable. Competing interests: The authors declare no competing interests. Ethics and consent: This study and the airway registry were approved by the Human Research Ethics Committee of Thammasat University (Faculty of Medicine) (approval number: MTU-EC-EM-0-068/67) on July 11st, 2024. This study was conducted in accordance with the principles of the Declaration of Helsinki. As this study is an observational study using retrospectively collected data, the patients' identification data were hidden and cannot be accessed. Consequently, the process of obtaining written informed consent was waived with approval from the Human Research Ethics Committee of Thammasat University. (© 2025. The Author(s).)

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22. **What assessment, intervention and diagnostics should women with early pregnancy bleeding receive in the emergency department and when? A scoping review and synthesis of evidence**

**Authors:** Trostian, Baylie;McCloughen, Andrea;Shaban, Ramon Z. and Curtis, Kate

**Publication Date:** 2025

**Journal:** Australasian Emergency Care 28(1), pp. 1–11

**Abstract:** Background: Vaginal bleeding is a frequent complication in early pregnancy, care that women receive, or lack thereof, can have immediate and long-term consequences. There is a lack of cogent, synthesised evidence on the assessment, interventions, and diagnostics for the management of early pregnancy bleeding in the emergency department (ED). This paper reports the results of a scoping review that identified that examined the literature to clarify concepts and generate a synthesis of the evidence for the assessment, interventions, diagnostics and management of early pregnancy bleeding in the ED.; Methods: Five databases were searched. Practice guidelines and statements were sourced from professional organisations, and online repositories. Three types of data were included: practice guidelines, reviews, and primary research. Data were extracted and collated, and findings were synthesised into a clinical guideline.; Results: A total 122 (of 3602) papers from database searching, and six (of 46) practice guidelines were included. Seventy-seven publications reported on assessment including performing vital observations. Thirty-six reported on interventions including administration of analgesia, and 114 reported on diagnostics, which most (n = 93) recommended use of ultrasound. Few (12 %) of practice statements and guidelines recommended care not based in current evidence. The study yielded an evidence-based practice guideline to be used for initial management of

early pregnancy bleeding.; Conclusions: The practice guideline generated by this examination and synthesis of the evidence offers comprehensive, evidence informed recommendations for the initial management of early pregnancy bleeding. Continued research and knowledge translation for initial management of early pregnancy bleeding is needed to reduce variation in emergency care and improve outcomes for women.; Competing Interests: Declaration of Competing Interest The following authors hold editorial positions within the Australasian Emergency Care Journal: Ramon Shaban is Editor-in-Chief, Kate Curtis is Associate Editor (Trauma). Authors Shaban and Curtis had no role to play in the editorial management, peer review or editorial decision-making related to the paper whatsoever. There are no other competing interests. This paper was not commissioned. 

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23. **Suicide Risk Screening in Children and Adolescents with Autism Spectrum Disorder Presenting to the Emergency Department**

**Authors:** Vasa, Roma A.;Kalari, Vamsi K.;Kitchen, Christopher A.;Kharrazi, Hadi;Campo, John V. and Wilcox, Holly C.

**Publication Date:** 2025

**Journal:** Joint Commission Journal on Quality & Patient Safety 51(3), pp. 192–198

**Abstract:** Youth with autism spectrum disorder (ASD) are over three times more likely to experience suicidal thoughts and behaviors (STB) than children in the general population. Screening to detect suicide risk is therefore critical for youth with ASD. This study examines the capacity of the Ask Suicide-Screening Questions (ASQ), a standard suicide screening tool, to detect suicide risk in children and adolescents with ASD who present to the pediatric emergency department (PED). This is a retrospective chart review of 393 (2.1%) youth with ASD and 17,964 (97.9%) youth without ASD, aged 8 to 21 years, who presented to the PED of a large urban academic medical center between 2017 and 2020. During the study period, the ASQ was universally administered to children and adolescents who presented to the PED for any reason. Data extracted from the electronic health record included demographic information, presenting concerns, ASD diagnosis, and ASQ results. Autistic children and adolescents were more likely to present to the PED with STB at the first PED visit compared to non-autistic children (12.7% vs. 4.4%, $p < 0.001$). In both autistic and non-autistic groups, presenting concerns about STB were significantly associated with a positive ASQ screen. More autistic youth were found to have a positive ASQ without STB as their chief presenting complaint as compared to non-autistic youth (22.6% vs. 11.6%, $p < 0.001$). Youth with ASD endorsed each item of the ASQ at roughly twice the rate of those without ASD. This preliminary descriptive study indicates that the ASQ may be a promising screening tool to assess suicide risk in autistic individuals. Further research on the predictive validity and overall reliability of the ASQ in youth with ASD is recommended

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24. **Managing non-traumatic musculoskeletal conditions presenting to emergency departments: Do patient profiles vary between a physiotherapy-led 'Diversion' pathway and routine care?**

**Authors:** Waller, Robert;McLaughlin, Mathew;King, Sarah;Lai, Jessica;Holt, Reuben;Flanagan, Pippa;Lin, Ivan;Richards, Karen and Truter, Piers

**Publication Date:** 2025

**Journal:** Australasian Emergency Care 28(1), pp. 24–30

**Abstract:** Background: Low urgency, non-traumatic musculoskeletal presentations are common in emergency departments. Although care is safe, it is expensive, and low priority. Pathways diverting these patients from emergency departments to physiotherapy care may improve hospital outcomes.

Identifying the suitable patient profile for these pathways is important.; Methods: A mixed prospective and retrospective, descriptive, cross-sectional study investigated adults aged 18-65 presenting to two emergency departments. Suitable patients were diverted directly to a physiotherapy outpatient diversion pathway. Three groups were compared, diverted patients, patients suitable but not diverted, and patients unsuitable for diversion.; Results: Diverted patients were aged 43 (median, inter-quartile range 34-53.5) years, triaged as low-urgency, self-referred, self-transported, and had few concerning features of serious pathology. Diverted patients had a 113-minute shorter emergency stay at 79 (median) minutes compared to suitable but not diverted patients, and both groups had a similar profile. Most (93.4 %) diverted patients were discharged within 4- hours, compared to suitable but not diverted patients (72.9 %). Key factors preventing diversion were concern for serious pathology or diversion capacity restraints.; Conclusion: A group of patients with non-traumatic musculoskeletal conditions who can be safely diverted to physiotherapy outpatients are described. Diversion impact was high quality care and improved emergency department metrics.; Competing Interests: Declaration of Competing Interest We have no conflicts of interest to declare. 

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25. **Multifaceted approach to reduce duplicate therapy errors in the emergency department.**

**Authors:** Huang H

**Publication Date:** 2024

**Journal:** *BMJ Open Quality* 2024;13(4):e003141.

**Abstract:** Duplicate therapy errors are well documented in healthcare, but there is limited data addressing this issue in emergency departments (EDs). Existing evidence shows that passive visual aids in electronic health records showed no significant reduction in duplicate medication orders by emergency physicians.
This study demonstrates that a multifaceted approach, combining visual prompts, education and patient involvement, can effectively reduce duplicate therapy errors in the ED.

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