



Do We Need to Manage Presyncope Similar to Syncope?

Take Home Point: Patients with unexplained presyncope and syncope in this study had similar rates of serious cardiac outcomes at 30 days following their initial emergency department (ED) visit.

Citation: Suh EH, Sacco DL, Winskill C, et al. Serious Cardiac Outcomes and Physician Estimation of Risk in Emergency Department Patients With Presyncope Versus Syncope. *Ann Emerg Med.* 2025 23:S0196-0644(25)01155-2. doi:10.1016/j.annemergmed.2025.08.014

Relevance: Patients with presyncope and syncope can present to urgent care (UC) and commonly have a benign etiology. However, occasionally these symptoms can be caused by a serious underlying condition.

Study Summary: This was a preplanned secondary analysis of the Practical Approaches to Care in Emergency Syncope (PACES) study, a multicenter, prospective, observational cohort study conducted at 6 urban EDs across the US. The study enrolled adults aged ≥ 40 years presenting with syncope or presyncope who did not have a serious acute diagnosis made during the ED visit. Syncope was defined as a brief loss of consciousness with spontaneous return to baseline neurologic function. Presyncope was defined as the sensation of an impending loss of consciousness without an actual loss of consciousness.

In total, data from 1,263 patients was analyzed, including those with syncope (721 [57%]) and presyncope (542 [43%]). Researchers found 28 (5.2%) patients with presyncope had a 30-day serious cardiac outcome, compared with 34 (4.7%) patients with syncope, for a risk difference (RD) of -0.45% (95% confidence interval -5.6% to 4.1%). Patients with presyncope were less likely to be admitted (38.2% vs 49.5%, risk difference 11.3% [1.2%, 21.5%]). These findings suggest that there is a tendency to consider

presyncope as a lower risk condition. Physicians' tendency to overestimate cardiac risk may reduce the likelihood of undertreatment.

Editor's Comments: There was a potential for selection bias in the study with higher rates of non-enrollment compared with enrollment of screened participants. The study setting in an urban ED may limit its generalizability to other clinical settings. The study was also not powered to distinguish types of serious acute events suffered by included patients.

Given the similar 30-day rates of serious acute events, these findings suggest a need to reconsider how patients with presyncope are risk-stratified. Further research is needed to better understand the clinical significance of underlying etiologies for both presyncope and syncope. ■

Acupressure and Magnetic Therapy versus Diclofenac in the Treatment of Upper Renal Tract Calculi

Take Home Point: Acupressure and magnetic therapy (AMT) in this study provided rapid analgesic effects, while diclofenac had a more sustained effect on patients with upper renal tract calculi.

Citation: Jia J, Yang S, Kang J, et al. Comparative efficacy of acupressure and magnetic therapy vs. diclofenac sodium for pain management in upper urinary tract calculi. *Am J Emerg Med.* 2026;99:365-369. doi: 10.1016/j.ajem.2025.10.045.

Relevance: Diclofenac is presently recommended as first line treatment for renal colic, but several contraindications exist and it may cause significant complications. Thus, finding effective replacements is important. Most present studies consider pharmacological alternatives, however the authors of this study considered alternative therapies.

Study Summary: This was a randomized controlled trial comparing the analgesic effect of AMT to diclofenac in acute renal colic while examining patient-specific factors influencing treatment outcomes. Participants were randomly allocated to receive AMT or 25 mg intramuscular di-



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clofenac. Calculi were identified via computed tomography (CT) scans. Pain scores were assessed via the visual analog scale (VAS) and participants in each group were blinded to each other. VAS was recorded in sequential timeframes of 1, 10, 30, and 120 minutes post-intervention.

In all, 138 patients were recruited (69 AMT and 69 diclofenac). The authors noted that at 1-minute post-intervention, diclofenac showed no significant reduction ($P>0.999$), while AMT achieved dramatic decline to 0 (0–1) (86% reduction, $P<0.001$), significantly outperforming diclofenac ($P<0.001$). All diclofenac group patients reached 0 VAS by 30–120 minutes, while AMT exhibited minor rebound at 30 minutes (0 [0–1], $P=0.265$ vs 10 minutes) and significantly continued to deteriorate by 120 minutes (4 [2–5], 79% increase from 30 minutes, $P<0.001$). Diclofenac demonstrated substantially longer sustained analgesia (23.6 \pm 2.2 hours) compared to AMT (2.4 \pm 1.0 hours; $P<0.001$).

Editor’s Comments: This was a single location study thus limiting its generalizability. The authors observed that AMT administration could result in variability between practitioners, complicating broader multicenter studies. The lack of sustained analgesic effect of AMT indicates that its implementation is limited. However, it has the potential to be used as an adjunct to other pharmacological therapies—particularly given its rapid onset results in this study. This study highlights present limitations for nonpharmacological therapies when compared to traditional first line treatments for pain in treatment of renal tract calculi. ■

Development of a Well-Being Charter Aims to Assist Staff

Take Home Point: This well-being charter outlines “why” and “how” organizations can take measures to improve their staff wellbeing.

Citation: Morton S, Surman K, Bayliss R, et al. FPHC Well-being Charter: The ‘Whys’ and ‘Hows’ of the Charter. *Scand J Trauma Resusc Emerg Med.* 2025 Nov 22;33(1):187. doi: 10.1186/s13049-025-01503-2.

Relevance: In modern healthcare delivery, staff constantly are met with a variety of intellectual and emotional challenges. Charters such as this may help organizations develop practical, actionable tools to support staff, thereby improving patient care.

Study Summary: This was a qualitative, multi-method design employed to inform the development of the Faculty of

“This study highlights present limitations for nonpharmacological therapies when compared to traditional first line treatments for pain in treatment of renal tract calculi”

Prehospital Care, Royal College of Surgeons Edinburgh (FPHC) Wellbeing Charter which included a combination of web-based questionnaires, focus groups, a literature search, and review of the original FPHC report. Questionnaire and focus group participants were recruited across a range of pre-hospital care organizations to capture a diverse range of views and experiences in the United Kingdom.

A total of 281 responses were received from the questionnaire group (195 male, 86 female). Additionally, 6 focus groups were held with an average of 5 participants per focus group. The authors suggested 4 subsections which comprised themes of: scheduling and rest, illness and return to work, patient follow-up, and parental leave (including maternity policies). Among the recommendations were:

- Self-scheduling with flexible working arrangements
- Ensuring the removal of a culture of “presentism” and that return-to-work programs are individualized
- Scheduling regular clinical governance sessions with senior clinicians to support reflective practice
- Having parental leave and maternity policies that are easily accessible to all staff

Editor’s Comments: This document represents a commendable initiative aimed at enhancing the wellbeing of staff and volunteers within healthcare. It provides thoughtful guidance on supporting employee well-being, emphasizing actionable recommendations for improving work environments and organizational culture. It is important to note certain limitations, notably the lack of measurable data demonstrating the effectiveness of the recommended interventions when put into practice.

Additionally, the research underlying the Charter was conducted primarily within the United Kingdom. As a result, the findings and recommendations may have limited applicability to healthcare organizations in other countries or regions, where operational structures, policies, and cultural considerations may differ significantly.

There is significant opportunity for healthcare organizations to adopt and trial the recommendations put forth in the Charter. By systematically implementing these strategies and rigorously reporting on their outcomes, organizations can contribute to building a stronger evidence

base. Such efforts would not only validate the Charter's guidance but also foster continual improvement in staff well-being practices across the healthcare sector. ■

Optimizing Order Sets with Large-Language Model-Powered Multiagent System

Take Home Point: In this cohort study investigating optimization of order sets, leveraging large-language models (LLMs) and multiagent systems provided a scalable approach.

Citation: Liu S, Huang S, McCoy A, et al. Optimizing Order Sets With a Large Language Model-Powered Multiagent System. *JAMA Netw Open*. 2025 Sep 2;8(9):e2533277. doi: 10.1001/jamanetworkopen.2025.33277.

Relevance: LLMs demonstrate strong text-processing abilities, raising the question of whether LLM-powered multiagent systems could efficiently review and improve clinical order sets—a typically slow manual task.

Study Summary: The authors developed an LLM-powered multiagent system, containing 5 agents and refined the system process using 46 Vanderbilt University Medical Center (VUMC) order sets. The content critic agent first reviewed the order set title to identify the disease and clinical scenario being addressed. The dynamic search agent then ensured that order sets reflected the latest clinical knowledge. The knowledge retrieval agent retrieved content from various reliable sources. The medication verification agent used the RxNav application programming interface (API) to extract medication class information and the Bing Search API to confirm market availability, while the suggestion summarizer agent synthesized the inputs from all agents to produce a final list of recommendations with confidence and importance scores.

After several test runs, the authors found that 122 of 639 suggestions (19%; 95% CI, 16%-22%) were rated as useful. The system allowed for customization by integrating external resources based on specific needs, and tailoring prompts or system architecture to achieve diverse optimization goals. This flexibility enabled clinical decision support experts at different institutions to adapt the multiagent system based on their local conditions.

Editor's Comments: This study shows that an LLM driven multiagent system can meaningfully reduce the manual

burden of maintaining complex order sets. By demonstrating that expert aligned filtering substantially improves the relevance of artificial-intelligence-generated suggestions, it offers a pragmatic pathway for safe, scalable integration into real world electronic health record workflows.

However, the findings are tempered by important limitations, including evaluation at a single academic center, a small number of physician reviewers, and the lack of systematic assessment of false negatives, all of which suggest that broader validation is still needed. ■

The Reliability of Likert Scale in Measuring Error

Take Home Point: In this study, there was wide variability in the accuracy of physician reviews to detect nuances in medical error, which underscores the need for more standardized error classification frameworks.

Citation: Grossman E, Burstein J, Fradinho J, et al. Can we tell when an error is an error? Assessing the reliability of a Likert scale in measuring error. *Am J Emerg Med*. 2026 Jan;99:285-288. doi: 10.1016/j.ajem.2025.10.018.

Relevance: Medical errors are difficult to define because of their complexity, varying classifications, and limitations in documentation. Clear identification and definition are essential for healthcare quality improvement.

Study Summary: This was a retrospective review of clinical notes from a single academic emergency department to evaluate the use of a Likert scale as a tool for emergency medicine physicians (EMPs) to detect medical error and to assess reliability between reviewers and reproducibility in real time. Cases reviewed were: 1) returns to ED within 72 hours and then admitted; 2) admissions from the ED to the floor and then transferred to the intensive care unit within 24 hours; 3) patients who died within 24 hours of their ED arrival; and 4) cases referred for quality assurance review from healthcare providers or patient complaints. All cases were reviewed by 1 EMP, and some randomly assigned to 2 EMPs, who were appropriately trained using an 8-point Likert scale to assess whether an error occurred and the severity of the error.

Of the initial 19,200 reviews, 1845 had 2 reviewers (9.6%) for analysis. The authors found that when using the Likert scale with weights, there was moderate agreement when comparing reviewers who scored any type of error to reviewers scoring possible, probable, and no er-

rors. Correlation was poorer, when directly comparing between subcategories of possible or probable error as well as within the severity of errors.

Editor's Comments: Limitations of this study include the single center academic emergency department, which limits its generalizability to other healthcare settings. Despite standard rules for which cases should be reviewed, the actual referrals varied because clinicians inside and outside the ED sent different cases for review, which potentially introduced a selection bias. The delays in some of the case reviews potentially introduced recall bias.

The findings underscore significant variability in the classification of medical errors, highlighting an urgent need to standardize current frameworks—a factor that directly impacts the quality of care throughout the healthcare system. It is essential for urgent care organizations to address these gaps as part of their quality and governance systems. ■

Pediatric and Adolescent Hematologic Malignancy Risk When Exposed to Medical Imaging

Take Home Point: This study directly provided evidence that ionizing radiation from medical imaging was associated with increased hematologic malignancy risk in children and underscores the need to carefully weigh benefits and risks when imaging children.

Citation: Smith-Bindman R, Alber S, Kwan M, et al. Medical Imaging and Pediatric and Adolescent Hematologic Cancer Risk. *N Engl J Med.* 2025 Oct 2;393(13):1269-1278. doi: 10.1056/NEJMoa2502098.

Relevance: Extensive evidence demonstrates a dose-response relationship between radiation exposure from medical imaging (leading source is computed tomography (CT)) and cancer risk.

Study Summary: This data was from the Risk of Pediatric and Adolescent Cancer Associated with Medical Imaging (RIC), a retrospective cohort study to quantify the association between cumulative active bone marrow radiation dose from medical imaging and the risk of hematologic malignancies in children in the United States and Ontario, Canada. Children were followed from birth until the earliest

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of any cancer or benign tumor diagnosis, death, emigration from Ontario, 6 months post-US health system disenrollment, age 21, or the study's end (December 2017). Medical imaging examinations were identified from administrative databases using codes from Current Procedural Terminology, International Classification of Disease, Healthcare Common Procedure Coding System, and Canadian Classification of Health Interventions. Absorbed radiation doses to the active bone marrow were estimated for each imaging examination using patient characteristics including sex, height, and weight extracted from electronic health records (EHR), anatomic area imaged, and the technical parameters of the examination.

In the analysis, 3,724,623 children with 35,715,325 person-years of follow-up data were reviewed. A total of 2,961 hematologic malignancies were diagnosed. The authors noted that head/brain CT was the most frequently performed CT exam (radiation exposure of 13.3 mGy per examination), and chest radiography (0.01 mGy) was the most common imaging exam. Hematologic malignancy risk increased with cumulative dose. Exposures associated with increased risk were common, with 15–30 mGy exposure associated with a 1.8-fold increased risk of malignancy, rising to 2.5 times greater risk for cumulative exposures of ≥ 30 mGy.

Editor's Comments: This was a very robust study which highlights the increased risk of hematological malignancies when correlated with radiation exposure due to medical imaging. The main limitation of the study was its lack of ascertaining other malignancy rates, which may have different prevalence.

The results should provide UC clinicians additional concern regarding orders for medical imaging in children. UC clinicians could consider other alternative imaging techniques such as ultrasound as safer non-radiating alternatives. ■