



ABSTRACTS IN URGENT CARE

Causes, Management, and Outcomes of Diplopia in the ED

Take Home Point: For diplopia, binocular diplopia was the most common presentation to the emergency department (ED), with microangiopathies and strokes being the most common etiology.

Citation: Occelli C, Coffin V, Raynaud O, et al. Presentation, management and outcomes of patients with diplopia in the emergency department. *Am J Emerg Med.* 2025;96:170-175. doi: 10.1016/j.ajem.2025.06.024.

Relevance: Patients with diplopia occasionally present to ED and urgent care (UC) with neurological or ophthalmological causes, some of which require immediate attention.

Study Summary: This was a retrospective, observational study of patients presenting to 2 French EDs. The authors reviewed electronic medical records (EMRs) for patients presenting with a complaint documented as “diplopia” by the ED reception nurse or physician. The primary objective of this study was to identify and categorize the underlying etiologies of diplopia in patients presenting to the ED.

The authors reviewed 788 patient records, which accounted for 0.2% of all admissions to both EDs. They found binocular diplopia in 751 patients (95%), while monocular diplopia was present in only 37 patients (4.7%). Of those with binocular diplopia, 694 (92%) underwent imaging. The most common diagnosis was microangiopathies, which accounted for 33% of cases, followed by strokes (19%). Other causes identified included myasthenia gravis (4.8%) and intra-orbital causes (2.5%). Of note, 18 (48%) of patients with monocular diplopia were imaged. In total, patients presenting with diplopia required urgent treatment in 42% of cases and hospitalization in 32% of cases.

Editor’s Comments: The retrospective and EMR use of this

study invites elements of bias from the accuracy of recording done and the coding/wordings entered to the EMRs. There may be limited generalizability given the setting of the study in only 2 French EDs. A diplopia presentation is very difficult to manage, investigate, and treat in a UC setting given the limitations of access to appropriate diagnostic tests. Therefore, in most circumstances, transfer to an ED would remain the most appropriate measure for UC clinicians. ■

Laceration Repair With Minimal Sedation in Children

Take Home Point: The 4 commonly used agents for minimal sedation in children—oral (PO) midazolam, intranasal (IN) dexmedetomidine, IN midazolam, and PO hydrocodone-acetaminophen—appear to be safe in use for laceration repair procedures.

Citation: Mulcrone A, Camp E, Frierson E, et al. Minimal Sedation Use for Laceration Repair in the Pediatric Emergency Department. *J Emerg Med.* 2025 Aug;75:1-13. doi: 10.1016/j.jemermed.2025.03.007

Relevance: Wound closure procedures can be painful and distressing, particularly for children. The ability to safely provide medications that calm patients will allow for better and more efficient care to be provided along with improving satisfaction for both patients and clinicians.

Study Summary: This was a retrospective, cross-sectional study in the pediatric ED of 3 free-standing children’s hospitals in the United States. Participants recruited into the study were ages 1-8 and required facial laceration repair by suturing. Four common, minimally sedative agents were compared: PO midazolam; IN dexmedetomidine; IN midazolam; and PO hydrocodone-acetaminophen. The primary outcome of the study was laceration repair completion, without additional doses of the same or other minimal sedation medication, or conversion to intravenous procedural sedation.

The authors identified 1,309 patients for analysis and found high procedural success of facial laceration repair (95.5%). PO hydrocodone-acetaminophen demonstrated the highest completion rate (99.3%), while IN dexmedetomidine, the lowest (92.9%). Adverse events were reported in 1.6% (n= 21) patients with no significant associ-



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ations identified between adverse events and any of the 4 medications. There was an association between adverse events and procedural failure, with most of them being converted to a dissociative sedative medication (ie, ketamine). No patients required reversal of the agents.

Editor's Comments: The authors focused only on facial lacerations, therefore, limiting the results generalizability to wounds on other sites of the body or other painful procedures. The study looked at very different medication and routes of administration, which have different modes of action and onset of effects, however, they did all appear safe. The reporting of adverse events was reliant on clinician records, which may lead to reporting bias and potentially under report on these incidents. While many urgent care centers do not offer minimal sedation, this study is reassuring for those that do utilize this in the young pediatric population. ■

Patient's Understanding of Medical Jargon When Used in Consultations

Take Home Point: Commonly used medical jargon in the ED is poorly understood by many patients, which can lead to confusion and non-adherence to discharge plans/instructions.

Citation: Wahrenbrock T, Landry K, Amin D, et al. Medical jargon is often misunderstood by emergency department patients. *Am J Emerg Med.* 2025;96:25-29. doi: 10.1016/j.ajem.2025.06.012

Relevance: Ensuring patient understanding is an important factor for all UC clinicians to consider when performing daily consultations. Misunderstandings can lead to harm, and it is imperative that the language we use is understood.

Study Summary: This was a cross-sectional study of English-speaking adult patients at an urban emergency department in Chicago, Illinois. Participants recruited were asked to answer an 11 item survey to assess their understanding of commonly used medical jargon. They were also asked to self-rate understanding of discharge instructions.

The authors recruited 151 patients, and 123 completed the full survey. They found participants understood only about half of commonly used medical jargon terms in the

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ED setting. There were varying levels of understanding, and the least understood medical term was, “Your chest x-ray is impressive” (9.8%), followed by “Your infection is acute” (25.2%). The most commonly understood terms were, “labs will be drawn” (76.4%), “CT scan was negative” (69.11%), and “X-ray showed a fracture” (66.7%). There was an association between education level and the correct understanding of frequently-used medical jargon. This has implications for clinicians when discussing diagnostic results and explaining discharge instructions to patients, especially those with lesser educational levels.

Editor's Comments: The single center, urban ED setting of this study may limit its generalizability to other settings, particularly those in UC. The exclusive use of English by the authors may limit the extent to which the study's findings can be generalized to consultations conducted in other languages, especially when interpreters are involved. This study, however, continues to add weight to available evidence that there are large numbers of patients that do not fully understand their instructions. It is an important reminder to use plain language as much as possible to minimize the risk of misunderstanding and lack of adherence. ■

Risk Factors for Patients With Infection Returning With Sepsis

Take Home Point: This study suggests that risk factors for a return ED visit for sepsis in patients with a previous ED visit for infection include cardiovascular disease, hypertension, chronic kidney disease, cancer, male sex, older age, an increased heart rate, and an increased temperature. Hyperlipidemia appears to be a protective factor.

Citation: Chen A, Allison M, Puskarich M, et al. Risk factors associated with return sepsis admission following emergency department discharge with infection. *Am J Emerg Med.* 2025;97:207-215. doi: 10.1016/j.ajem.2025.07.059.

Relevance: The Centers for Disease Control and Prevention

(CDC) has previously declared sepsis a medical emergency, and while there are limited evidence-based strategies to risk stratify and detect sepsis. The authors of this paper attempt to address the gap in literature.

“This study does highlight the present limitations of current influenza/pneumonia clinical decision tools to identify and predict patients who may deteriorate and require admission/hospital-based treatment.”

Study Summary: This was a retrospective cohort study on adult patients who visited 2 University of California San Diego Health EDs across 3 calendar years. The study focused on patients initially presented with pneumonia, urinary tract infection (UTI), and/or cellulitis and who subsequently returned for hospital admission within 7 days due to sepsis, severe sepsis without septic shock, and/or septic shock. Data for the study was collated via review of electronic medical notes and a query build tool to identify suitable patients.

The authors identified 10,179 patients with infections across the study period and found the prevalence of returning within 7 days of the initial ED visit and being admitted with sepsis was 1.11% (n=113). When comparing those patients who returned against those who did not, the authors noted that the return patients were more likely to be older (mean age of 57 vs 52 years), be male (59% vs 41%), have cardiovascular disease (27% vs 12%), have hypertension (68% vs 44%), have chronic kidney disease (26% vs 11%), and have cancer (33% vs 17%). It was also noted that at the initial visit triage, patients who returned with sepsis had lower systolic blood pressure (mean 129 mmHg vs 136 mmHg), diastolic blood pressure (mean 75 mmHg vs 80 mmHg), higher heart rate (mean 96 beats per minute vs 89 beats per minute), higher temperature (median temperature 98.4°F vs. 98.3°F), and lower oxygen saturation (median O₂ saturation 97% vs 98%).

Editor’s Comments: There are several limitations to the study including the single center health system where the study is based, which limits its generalizability. The small sample size of the study also limits its generalizability. Some of the observed trends are anticipated, particularly among patients who are older or have significant comorbidities, due to the physiological challenges these factors

generally pose in combating infections. However, this study does both set a potential benchmark for further, multicenter and prospective studies to create risk stratification tools for predicting sepsis. It also highlights factors that UC clinicians may want to consider when dealing with patients presenting with common infections, in particular, decisions regarding ED transfer or closer follow-up. ■

Utility of Severity Scores to Identify Severe Influenza

Take Home Point: There was no severity score that accurately identified high-risk patients across the entire population, although the National Early Warning Score 2 (NEWS₂) had some promising results for those aged <65 years.

Citation: Bergbrant S, Sundell N, Wahllöf M, et al. Clinical utility of severity scores in identifying severe influenza. *Am J Emerg Med.* 2025;97:18-25. doi:10.1016/j.ajem.2025.07.029.

Relevance: Seasonal influenza epidemics place a considerable strain on healthcare systems, with increasingly more symptomatic patients presenting to UCs. The ability to identify those who may potentially deteriorate and need higher level of care is a prominent consideration during UC consultations.

Study Summary: This was a retrospective, observational longitudinal cohort study of all adults admitted to a teaching hospital in western Sweden with a diagnosis of influenza, according to the International Classification of Diseases (ICD J09–11) between 2015 and 2019. Medical records were retrospectively reviewed for demographic and clinical data. The primary endpoint was the proportion of patients with severe influenza-associated illness, defined as a score ≥3, on a proposed pulmonary disease severity scale: (1) no oxygen support; (2) standard supplemental oxygen therapy (flow rate <30 L/min); (3) high-flow nasal cannula or non-invasive ventilation; (4) invasive mechanical ventilation; and (5) all-cause in-hospital death. Severity scores evaluated as potential predictors included CRB-65, DS-CRB-65, NEWS₂, NEWS-C, qNEWS, qSOFA, and SSTS. The predictive accuracy of severity scores and regression models was assessed.

The authors identified 1,046 hospitalized patients with influenza during the study period and 735 met inclusion criteria. No differences were observed between patients with or without severe influenza-associated illness regard-

ing sex, age, or comorbidity index. No scoring system reached an area under the curve above 0.8, with NEWS2 (0.76, 95% confidence interval [CI] 0.70–0.83) being the highest. Among patients with severe influenza-associated illness, 83 % had NEWS2 ≥ 7 , compared to 37% of patients without. The combination of NEWS2 ≥ 7 and CRP $\geq 100\text{mg/L}$ achieved a specificity of 90% (sensitivity 40%), while the severity score with the highest specificity adding CRP $\geq 100\text{mg/L}$ was DS-CRB-65 ≥ 3 (95%, sensitivity 22%).

Editor’s Comments: There may be limited generalizability to geographical and other clinical settings given this study’s single site and teaching hospital population. As this was retrospective, there was no systematic testing of patients for viral or bacterial causes of illness—testing was at the discretion of the treating clinician. Vaccination status of the patients was not also considered. This study does highlight the present limitations of current influenza/pneumonia clinical decision tools to identify and predict patients who may deteriorate and require admission/hospital-based treatment. This is crucial for UC clinicians to remember in their decision-making process. There are clear opportunities for urgent care-based research in this area. ■

Healthcare Professionals’ Perspectives of Artificial Intelligence and Its Use in Healthcare

Take Home Point: Healthcare professionals (HCPs) identify many facilitating and hindering factors with the inclusion of artificial intelligence (AI) in healthcare.

Citation: Henzler D, Schmidt S, Koçar A, et. al. Healthcare professionals’ perspectives on artificial intelligence in patient care: a systematic review of hindering and facilitating factors on different levels. *BMC Health Serv Res.* 2025 May 1;25(1):633. doi: 10.1186/s12913-025-12664-2

Relevance: AI has an increasing role in healthcare administration, including for direct patient care, however it remains in the early stages of implementation. This review examines HCPs’ perception on AI and identifies factors that facilitate or hinder AI’s role in deliver of care.

Study Summary: This was a systematic review of available evidence using the Preferred Reporting Items for Systematic Reviews and Meta Analyses framework. Several data-

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bases were searched to identify peer reviewed articles investigating healthcare professionals’ perspectives on clinical AI, either those hypothetical or already implemented, in patient care. Factors that were hindering or facilitating the use of AI were thematically analyzed and categorized.

The authors identified 72 studies for inclusion into their review. The studies collectively investigated the perspectives of 15,325 HCPs, including lab technicians, midwives, nurses, physical therapists, and physicians from different medical specialties. This study reviewed 43 quantitative studies, 17 qualitative studies, and 12 mixed methods studies. The main facilitating factor was improved efficiency in work-related tasks including reduction in repetitive administrative tasks such as scheduling appointments, reminders to patients, or prescription refills. Hindering factors identified included those at an organizational level such as lack of infrastructure and technology, and challenges with reimbursement models.

Editor’s Comments: Given the early stage of this healthcare AI, most studies reviewed offered only hypothetical applications, thereby limiting the generalizability to real-world patient care. Numerous questions remain regarding the implementation of AI in healthcare, particularly in relation to governance, data protection, and safety. Nonetheless, there is optimism that as the technology matures and practical experience grows, it will yield a positive impact for both patients and clinicians’ ability to perform their tasks. Continued research and development are essential to optimise the effective use of AI in healthcare, particularly for UC clinicians. ■