Journal report – září 2025

OBSAH

PREHOSPITAL CARE

– clinical trials & RCT & multicenter study

1: Siegfried Y, Pokryszka J, Hruz P, Buetikofer S, Morell B, Murray FR, Safroneeva E, Kreienbuehl A, Greuter T, Straumann A, Rogler G, Biedermann L, Schoepfer A, Schreiner P. **Wide discrepancy between best practice recommendations and real-life management of suspected eosinophilic esophagitis-associated food bolus impaction.** Dis Esophagus. 2025 Sep 1;38(5):doaf073. doi: 10.1093/dote/doaf073. PMID: 40971831.

2: Nassal MMJ, Yang BY, Hall J, Shin J, Gage CB, Powell JR, Panchal AR, Latimer AJ, Wang HE, Rea TD, Johnson NJ. **Advanced Airway Practice Patterns and Out-of-Hospital Cardiac Arrest Outcomes.** JAMA Netw Open. 2025 Sep 2;8(9):e2532334. doi: 10.1001/jamanetworkopen.2025.32334. PMID: 40960825; PMCID: PMC12444570.

3: Nassal MMJ, Elola A, Aramendi E, Gage CB, Powell JR, Jaureguibeitia X, Idris AH, Daya MR, Aufderheide TP, Carlson J, Stephens SW, Nichol G, Schmicker RH, Panchal AR, Wang HE. **Advanced Airway Devices and End-Tidal Capnography Trends in Cardiac Arrest: A Secondary Analysis of a Randomized Clinical Trial.** JAMA Netw Open. 2025 Sep 2;8(9):e2531511. doi: 10.1001/jamanetworkopen.2025.31511. PMID: 40952743; PMCID: PMC12439061.

4: AlSaleh A, AlSaif SM, Alhadramy O, Alshehri M, Al Faraidy K, Almutairi F, Kinsara AJ, Al-Murayeh M, Ghabashi AE, Alasnag M, Hussein GA, Askar TM, Haider KH, Alharbi IA, Almokhlef A, Sayed BA, Almasswary A, Ul-Sabah Z, Kazim H, Albareda HA, Aldossari MA, Albawardi R, Alali R, Abdulhabeeb IAM, Ibrahim SM, Alasmari S, Almoghairi AM, Khoja AY, Hussain N, Aminu BS, Serafi A, Eltayeb AO, BuSaleh AH, Alsabatien B, Hamza MK, Alsharkawy R, Awwad AA, Mohamed MA, Al Habeeb MA, Shujauddin S, Ya'u JA, Attia NM, Kholaif N, Bin Ghouth NM, Youssef MKI, Qutub MA, Lawand SR, Alkutshan R, Ahmed E, Basardah A, Alhaj WI, Altaradi H, Ali M, Alqarawi W, Alhabib KF; STARS-2 Investigators. **The second survey of the Saudi Acute Myocardial Infarction Registry Program: Main results and temporal changes in care (STARS-2 program).** PLoS One. 2025 Sep 2;20(9):e0331215. doi: 10.1371/journal.pone.0331215. PMID: 40892777; PMCID: PMC12404464.

5: Nogueira LS, Domingues CA, Fernandes LC, Vieira RCA, Mejía YAS, Baliña J, Tenaillon C, Santero M, Rio TGGND, Lombardo GR, Sousa RMC. **The Association of Prehospital Care Level and Triage Accuracy with Trauma Outcomes: A Multi-Country, Multicenter Cohort Study.** J Trauma Nurs. 2025 Sep-Oct 01;32(5):252-259. doi: 10.1097/JTN.0000000000000869. Epub 2025 Sep 5. PMID: 40779777.

6: Stirparo G, Ticozzi EM, Scudera L, Ales ME, Bodina A, Perotti G, Pregliasco FE, Signorelli C, Lombardo M. **STEMI patients' demographics and outcomes by mode of emergency department arrival.** J Cardiovasc Med (Hagerstown). 2025 Sep 1;26(9):501-507. doi: 10.2459/JCM.0000000000001767. Epub 2025 Jul 2. PMID: 40631488.

7: Linares CB, Martín-Conty JL, Polonio-López B, Rivera Picón C, Bernal-Jiménez JJ, Falguera FT, Rabanales Sotos J, Sampedro-Nuñez MA, Sebastián-Valles F, Castro Villamor MÁ, Del Pozo Vegas C, González MP, López-Izquierdo R, Martín-Rodríguez F, Sanz-García A. **Emergency department glucose cut-off for 2-year mortality: A multicentre, prospective, cohort study.** Eur J Clin Invest. 2025 Sep;55(9):e70066. doi: 10.1111/eci.70066. Epub 2025 May 15. PMID: 40371752.

PREHOSPITAL CARE

– systematic review & meta-analysis & scoping review

1: Almutairi A, Coyer F, Keogh S, Hughes J. **Factors influencing pain management in patients presenting to the emergency department: A mixed-method systematic review.** Int J Nurs Stud. 2025 Sep 12;172:105214. doi: 10.1016/j.ijnurstu.2025.105214. Epub ahead of print. PMID: 40992019.

2: Ranse J, Gray L, Mortelmans L, Sultana N, Achour N, Barten DG, Carlström E, Ciottone G, De Cauwer H, Goniewicz K, Granholm F, Hertelendy AJ, Kupietz K, Ratnayake A, Robinson Y, Somville F, Tin D, Khorram-Manesh A. **Spontaneous and Unplanned Mass Gathering Events: A Scoping Review of Health Considerations for Riots, Civil Unrest, and Protest.** Disaster Med Public Health Prep. 2025 Sep 22;19:e269. doi: 10.1017/dmp.2025.10189. PMID: 40977193.

3: Kuusisto J, Mattila K, Iirola T, Heino A. **Effectiveness of External Hemorrhage Compression Device of the Abdominal Aorta in Hemorrhagic Shock: A Systematic Review of the Literature.** J Spec Oper Med. 2025 Sep 26:FGHJ-K86Z. doi: 10.55460/FGHJ-K86Z. Epub ahead of print. PMID: 40952909.

4: McCutcheon MMR, Allison JD, Smith SRG. **Impact of Mode of Arrival to Hospital on Early Mortality in Adults With Penetrating Trauma: A Systematic Review, Meta-Analysis, and Narrative Synthesis.** World J Surg. 2025 Sep 8. doi: 10.1002/wjs.70087. Epub ahead of print. PMID: 40922043.

5: Hilditch M, Brand C, Devlin S, Boyd A, Venema E. **BE-FAST vs FAST in prehospital stroke recognition: a systematic review.** Br J Community Nurs. 2025 Sep 2;30(9):439-447. doi: 10.12968/bjcn.2025.0119. PMID: 40862575.

Journal report – září 2025

6: Damsgaard K, Melander-Nyboe P, Pihl-Thingvad J, Steinmetz J, Gehrt TB. **Common Mental Health Symptoms in Personnel Working in Helicopter Emergency Medical Services: A Systematic Review.** Air Med J. 2025 Sep-Oct;44(5):420-428. doi: 10.1016/j.amj.2025.06.019. Epub 2025 Jul 14. PMID: 40849160.

Journal report – září 2025

PREHOSPITAL CARE

– clinical trials & RCT & multicenter study –

1. Dis Esophagus. 2025 Sep 1;38(5):doaf073. doi: 10.1093/dote/doaf073.

Wide discrepancy between best practice recommendations and real-life management of suspected eosinophilic esophagitis-associated food bolus impaction.

Siegfried Y(1), Pokryszka J(2), Hruz P(3), Buetikofer S(4), Morell B(5), Murray FR(5), Safroneeva E(6), Kreienbuehl A(1), Greuter T(7), Straumann A(1), Rogler G(1), Biedermann L(1), Schoepfer A(8), Schreiner P(1)(2).

Esophageal food impaction (EFI) is the leading complication in patients with undiagnosed eosinophilic esophagitis (EoE). Limited data exists on pre-hospital care, in-hospital management, and post-hospital follow-up in suspected EoE-associated EFI. This study aims to assess deviations between real-life management and guideline-based recommendations in suspected EoE-associated EFI. This retrospective multicenter study analyzed data from four major Swiss gastroenterology units on patients with EoE-associated EFI. Patients with GERD-related strictures or esophageal cancer were excluded. Data on demographics, emergency department (ED), endoscopy management, and follow-up were obtained from electronic health records. Associations between clinical factors and odds of biopsy were analyzed using logistic regression. Between January 2015 and December 2020, 198 EFI cases (median age 51 years, 29.8% female, 28% with previous EFI) were recorded. Patient delay-the time between symptom onset and ED admission-was ~ 270 minutes. Nearly all patients (94%) required endoscopic bolus removal. The median time from ED presentation to endoscopy was ~150 minutes. Esophageal biopsies were taken in just over half of the individuals (n = 97, 52%), leading to a new EoE diagnosis in 71 (68.9% of those biopsied). Biopsy odds decreased significantly with older age (OR 0.96; 95% CI 0.94-0.98, P < 0.05) and known EoE (OR 0.26; 95% 0.09-0.69, P < 0.05). Although EoE is a leading cause of EFI, too few patients with a high baseline probability of EoE undergo biopsy in the emergency setting. Among those biopsied, the majority received a new EoE diagnosis, highlighting the importance of histological assessment.

DOI: 10.1093/dote/doaf073

PMID: 40971831 [Indexed for MEDLINE]

2. JAMA Netw Open. 2025 Sep 2;8(9):e2532334. doi: 10.1001/jamanetworkopen.2025.32334.

Advanced Airway Practice Patterns and Out-of-Hospital Cardiac Arrest Outcomes.

Nassal MMJ(1), Yang BY(2), Hall J(3), Shin J(4), Gage CB(5), Powell JR(6), Panchal AR(1), Latimer AJ(3), Wang HE(1), Rea TD(3), Johnson NJ(3).

IMPORTANCE: Although advanced airway (AA) practice patterns have varied over time, their association with out-of-hospital cardiac arrest (OHCA) outcomes is unknown.

OBJECTIVE: To determine the association between AA temporal practice patterns of emergency medical service (EMS) agencies and OHCA outcomes.

DESIGN, SETTING, AND PARTICIPANTS: This cross-sectional study used data from multicenter EMS agencies participating in the Cardiac Arrest Registry to Enhance Survival database. The study included adults (aged ≥18 years) with OHCA treated by EMS agencies that had 25 or more OHCA episodes annually from January 1, 2016, through December 31, 2022.

EXPOSURE: AA interventions included supraglottic airway (SGA) device use or endotracheal intubation (ETI). Patients were categorized into groups using the following EMS agency-level patterns defined by predominant AA use before and after 2019: (1) ongoing ETI, (2) ongoing SGA use (ongoing SGA), (3) transitioning from ETI to SGA use (ETI to SGA), or (4) transitioning from SGA use to ETI (SGA to ETI).

MAIN OUTCOMES AND MEASURES: Mixed-effects logistic regression models accounting for EMS agency clustering and adjusting for Utstein variables were used to evaluate the association between EMS agency AA practice patterns and OHCA outcomes including return of spontaneous circulation (ROSC) and survival. Subanalyses were also conducted for agencies in the lowest survival quartile. Odds ratios (ORs) are reported with 95% CIs.

RESULTS: This study included 350 216 patients with OHCA treated by 254 eligible EMS agencies. The 214 EMS agencies (n = 305 341 patients) with a predominant AA pattern were grouped as follows for temporal pattern analysis: ongoing ETI (n = 72 [33.6%]), ongoing SGA (n = 66 [30.8%]), ETI to SGA (n = 67 [31.3%]), or SGA to ETI (n = 9 [4.2%]). Patients were predominantly male (62.2%), with a median age of 64 (IQR, 52-76) years, and most (81.7%) presented with nonshockable rhythms. ROSC occurred in 30.8% of patients, and 10.4% of patients survived to hospital discharge. Predominant SGA use among EMS agencies increased from 65 agencies in 2016 to 113 in 2022. ROSC decreased in all 4 groups from before to after 2019 as follows: from 36.5% to 30.7% (OR, 0.80 [95% CI, 0.77-0.82]) for ongoing ETI, from 32.4% to 26.4% (OR, 0.75 [95% CI, 0.73-0.78]) for ongoing SGA, from 32.1% to 28.5% (OR, 0.88 [95% CI, 0.85-0.91]) for ETI to SGA, and from 36.7% to 33.3% (OR, 0.92 [95% CI, 0.83-1.03]) for

SGA to ETI. For the 15 lower-performing agencies (n = 20 860 patients) that transitioned from ETI to SGA after vs before 2019, an association with higher ROSC (from 25.7% to 29.1%; OR, 1.16 [95% CI, 1.09-1.24]) and survival (from 5.6% to 6.3%; OR, 1.17 [95% CI, 1.04-1.32]) was observed.

CONCLUSIONS AND RELEVANCE: In this cohort study, SGA use among EMS agencies increased over time. Although ROSC declined for all AA temporal practice patterns, the transition from ETI to SGA use at EMS agencies with lower baseline survival was associated with improved outcomes. Future studies are warranted to confirm these findings and to evaluate whether the observed associations are consistent across diverse populations.

DOI: 10.1001/jamanetworkopen.2025.32334

PMCID: PMC12444570

PMID: 40960825 [Indexed for MEDLINE]

3. JAMA Netw Open. 2025 Sep 2;8(9):e2531511. doi: 10.1001/jamanetworkopen.2025.31511.

Advanced Airway Devices and End-Tidal Capnography Trends in Cardiac Arrest: A Secondary Analysis of a Randomized Clinical Trial.

Nassal MMJ(1), Elola A(2), Aramendi E(3), Gage CB(4), Powell JR(5), Jaureguibeitia X(3), Idris AH(6), Daya MR(7), Aufderheide TP(8), Carlson J(9), Stephens SW(10), Nichol G(11), Schmicker RH(12), Panchal AR(1)(4), Wang HE(1).

IMPORTANCE: While variable advanced airway devices are used in out-of-hospital cardiac arrest (OHCA) resuscitation, potential differences in ventilation metrics are not well known.

OBJECTIVE: To characterize differences in end-tidal carbon dioxide (EtCO2) capnography trajectories between laryngeal tube (LT) and endotracheal intubation (ETI) during OHCA.

DESIGN, SETTING, AND PARTICIPANTS: This secondary analysis of EtCO2 capnography waveforms from the Pragmatic Airway Resuscitation Trial (PART), a multicenter cluster-crossover randomized clinical trial, was performed November 1, 2023, through July 8, 2025. Participants in this analysis were adults (aged ≥18 years) with nontraumatic OHCA from 27 emergency medical services (EMS) agencies, which were placed into 13 clusters. Participants were assigned to LT or ETI airway management. All cases with 50% or greater interpretable EtCO2 signal were included.

INTERVENTIONS: LT vs ETI airway management.

MAIN OUTCOMES AND MEASURES: Mean maximal EtCO2 values within 1-minute epochs and trends over resuscitation after LT or ETI. Associations with OHCA outcomes were also evaluated, including sustained return of spontaneous circulation (ROSC) and 72-hour survival. Using the Mann-Whitney test, EtCO2 of LT and ETI cases were compared at 20-, 10-, and 1-minute resuscitation. EtCO2 trends over time were evaluated using Cochran-Armitage test of trend. Covariates in multivariable logistic regression models for outcomes were adjusted, including interaction between advanced airway device and EtCO2 trends.

RESULTS: Of the 3004 cases in PART, 1113 (818 in LT and 295 in ETI groups) had available EtCO2 data and were included in the secondary analysis. Patients were mostly male (694 [62.4%]), had a median (IQR) age of 64 (52-75) years, and had a nonshockable (941 [84.6%]), nonpublic (999 [89.8%]) OHCA. ROSC occurred in 144 patients (17.6%) receiving LT and 54 (18.3%) receiving ETI. EtCO2 values did not differ between LT and ETI groups (20-minute resuscitation: 33.9 vs 29.4 mm Hg, P = .07; 10-minute resuscitation: 30.9 vs 28.5 mm Hg, P = .89; 1-minute resuscitation: 32.2 vs 28.3 mm Hg, P = .28). In ROSC compared with non-ROSC cases, patients in LT (27.9 to 52.3 mm Hg vs 32.6 to 23.5 mm Hg; P < .001) and ETI (38.2 to 46.7 mm Hg vs 27.7 to 20.0 mm Hg; P < .001) groups exhibited increasing EtCO2 during resuscitation. EtCO2 trend and advanced airway interaction was associated with ROSC (odds ratio [OR], 1.75; 95% CI, 1.25-2.45) but not survival (OR, 1.21; 95% CI, 0.90-1.61). Therefore, we performed an advanced airway stratified analysis for ROSC (ETI: OR, 2.34 [95% CI, 1.67-3.26]; LT: OR, 1.33 [95% CI, 1.20-1.47]).

CONCLUSIONS AND RELEVANCE: In this secondary analysis of PART, EtCO2 values did not differ between LT and ETI. However, due to significant interaction between advanced airway device and EtCO2 trends, individual interpretation of these parameters may not be accurate.

DOI: 10.1001/jamanetworkopen.2025.31511

PMCID: PMC12439061

PMID: 40952743 [Indexed for MEDLINE]

4. PLoS One. 2025 Sep 2;20(9):e0331215. doi: 10.1371/journal.pone.0331215. eCollection 2025.

The second survey of the Saudi Acute Myocardial Infarction Registry Program: Main results and temporal changes in care (STARS-2 program).

AlSaleh A(1), AlSaif SM(2), Alhadramy O(3)(4), Alshehri M(5), Al Faraidy K(6), Almutairi F(7), Kinsara AJ(8), Al-Murayeh M(9), Ghabashi AE(10), Alasnag M(11), Hussein GA(12), Askar TM(13), Haider KH(14), Alharbi IA(14), Almokhlef A(15), Sayed BA(16), Almasswary A(17), Ul-Sabah Z(18)(19), Kazim H(20), Albareda HA(21), Aldossari MA(22), Albawardi R(8), Alali R(23), Abdulhabeeb IAM(24), Ibrahim SM(25), Alasmari S(26), Almoghairi AM(27), Khoja AY(28), Hussain N(29), Aminu BS(30), Serafi A(31), Eltayeb AO(32), BuSaleh AH(33), Alsabatien B(34), Hamza MK(35), Alsharkawy R(36), Awwad AA(37), Mohamed MA(38), Al Habeeb MA(39), Shujauddin S(40), Ya'u JA(41), Attia NM(42), Kholaif N(43), Bin Ghouth NM(44), Youssef MKI(45), Qutub MA(46), Lawand SR(47), Alkutshan R(48), Ahmed E(1), Basardah A(1), Alhaj WI(49), Altaradi H(50), Ali M(51), Alqarawi W(1)(52), Alhabib KF(1); STARS-2 Investigators.

BACKGROUND: The Saudi Acute Myocardial Infarction Registry (STARS) program aims to evaluate the clinical characteristics, management, and outcomes of a representative sample of patients with acute myocardial infarction (AMI) in Saudi Arabia. This second phase evaluates temporal changes in patient care, demographics, and the management benchmarks for AMI.

METHODS AND FINDINGS: We created a 5-year recurring, multi-center prospective registry that utilizes a snapshot design in 50 hospitals from various healthcare sectors in Saudi Arabia. The study's recruitment phase spanned from September 3, 2021, to January 6, 2023. During these 16 months, 2,690 patients presenting with acute myocardial infarction (AMI) with or without ST-segment elevation (STEMI or NSTEMI, respectively) were enrolled. The mean age (± SD) of the overall population was 57 (±12.4) years, 70% were Saudi citizens, 82% were men, and (48.8%) of the total patients had STEMI. Fifty-eight percent of patients had diabetes mellitus and 58% had hypertension. Of the total population with STEMI, primary percutaneous coronary intervention (PCI) was performed in 619 patients (47.1%), thrombolytics were given to 584 patients (44.5%), and 110 patients had no reperfusion (8.4%). Among patients who presented within 24 h of symptom onset, the door-to-balloon (DTB) time was 63 min (IQR: 43), with 75.6% achieving DTB < 90 min, whereas the door-to-needle (DTN) was 25 min (IQR: 34), with 57% achieving DTN < 60 min. Thirty-nine percent of patients failed lytic reperfusion and 96% of these required rescue PCI. In 52% of instances, the failure to receive reperfusion therapy was attributed to patients' late presentation. At presentation, only 8.5% of cases were transferred by the Emergency Medical Services. Approximately one-fourth of patients with

NSTEMI did not undergo a coronary angiogram. All-cause mortality was 2.4% with no significant difference between sexes or nationalities.

CONCLUSION: This nationwide AMI registry revealed younger age at presentation with a high prevalence of risk factors for coronary artery disease. While primary PCI key performance indicators have improved from the previous phase, further progress is needed in EMS utilization and acute revascularization for STEMI and NSTEMI.

DOI: 10.1371/journal.pone.0331215

5. J Trauma Nurs. 2025 Sep-Oct 01;32(5):252-259. doi: 10.1097/JTN.0000000000000869. Epub 2025 Sep 5.

The Association of Prehospital Care Level and Triage Accuracy with Trauma Outcomes: A Multi-Country, Multicenter Cohort Study.

Nogueira LS(1), Domingues CA, Fernandes LC, Vieira RCA, Mejía YAS, Baliña J, Tenaillon C, Santero M, Rio TGGND, Lombardo GR, Sousa RMC.

BACKGROUND: Proper triage and transport to trauma centers improve outcomes for severe trauma patients. However, little is known regarding these processes across Latin American healthcare systems, limiting regional improvement efforts.

OBJECTIVE: This study aims to evaluate the association of prehospital care level and triage accuracy with hospital outcomes in trauma patients in Latin America.

METHODS: This prospective cohort study was conducted in 14 hospitals across Argentina, Brazil, and Colombia. Inclusion criteria were adult trauma patients aged ≥18 years admitted directly from the scene of injury. Data collection occurred over 30 consecutive days at each hospital between 2019 and 2021. Predictor variables included the level of prehospital care (none, basic, or intermediate/advanced) and triage accuracy (correct, undertriage, or overtriage). The primary outcomes were hospital length of stay and mortality. Associations were analyzed using linear regression for hospital stay and logistic regression for mortality.

RESULTS: A total of 1,193 trauma patients were included (62.4% male, mean age 43.5 years. Motor vehicle crashes (43.3%) and falls (36.1%) were the leading causes of injury. Emergency medical services assisted 58.7% of patients, mainly at a basic level (n = 530). Overtriage occurred in 50.0%. Intermediate/advanced prehospital care was associated with longer hospital stays (β3.64, 95% CI [1.39, 5.89], p = .002). Neither prehospital care level nor triage accuracy was associated with hospital mortality (p ≥.050).

CONCLUSIONS: In our study of 14 hospitals across Argentina, Brazil, and Colombia, intermediate/advanced prehospital care was associated with longer hospital stays. Neither prehospital care level nor triage categorization was associated with hospital mortality.

DOI: 10.1097/JTN.0000000000000869

6. J Cardiovasc Med (Hagerstown). 2025 Sep 1;26(9):501-507. doi: 10.2459/JCM.0000000000001767. Epub 2025 Jul 2.

STEMI patients' demographics and outcomes by mode of emergency department arrival.

Stirparo G(1), Ticozzi EM(2), Scudera L(3), Ales ME(3), Bodina A(1), Perotti G(1), Pregliasco FE(2), Signorelli C(3), Lombardo M(1).

AIMS: The aim of this study was to identify the demographic factors influencing the mode of emergency department (ED) admission among patients with ST-elevation myocardial infarction (STEMI), comparing those arriving by emergency medical services (EMS) versus walk-in patients, and to correlate them with outcomes.

METHODS: This retrospective observational study utilized data provided by the regional emergency agency (AREU), analyzing ED admissions for STEMI across 120 hospitals in Lombardy between 1 January 2022 and 31 December 2022. The prevalence of EMS use and of walk-in patients was determined and the association between the mode of ED access and patient outcomes was assessed.

RESULTS: We recorded 8235 STEMI cases, of which 58.4% presented at the ED via EMS. Younger and male patients were more likely to use self-transport. Age was positively correlated with EMS use, especially in cases with a red triage code. Patients accessing the ED independently were more likely to require secondary transport [odds ratio (OR) 3.80, 95% confidence interval (CI) 3.17-4.51; $P < 0.001$]. One hundred and twenty-eight deaths were recorded, of which 96 (75%) occurred in patients over 75 years of age. Women were more likely to die than men (OR 2.16, 95% CI 1.52-3.02; $P < 0.001$).

CONCLUSIONS: The number of patients not using EMS highlights the need for public education on the importance of EMS as a means of transport and as a platform for early treatment. Public health campaigns should focus on raising awareness of gender differences in the presentation of STEMI and address treatment disparities to improve outcomes for all patient groups.

DOI: 10.2459/JCM.0000000000001767

Journal report – září 2025

7. Eur J Clin Invest. 2025 Sep;55(9):e70066. doi: 10.1111/eci.70066. Epub 2025 May 15.

Emergency department glucose cut-off for 2-year mortality: A multicentre, prospective, cohort study.

Linares CB(1), Martín-Conty JL(2)(3)(4), Polonio-López B(2)(3)(4), Rivera Picón C(2), Bernal-Jiménez JJ(2)(3), Falguera FT(2)(3), Rabanales Sotos J(5)(6), Sampedro-Nuñez MA(7), Sebastián-Valles F(7), Castro Villamor MÁ(8), Del Pozo Vegas C(8)(9), González MP(10), López-Izquierdo R(8)(10), Martín-Rodríguez F(8)(11), Sanz-García A(2)(3)(4).

INTRODUCTION: Admission glucose levels in acute illnesses are critical prognostic biomarkers; yet their impact on long-term outcomes has not been sufficiently studied, particularly in emergency medical services (EMS). This study aims to establish specific glucose cut-off points to predict 2-year mortality in patients treated in emergency departments (ED), stratified by diabetes status (Nondiabetic, Uncomplicated diabetes and Complicated diabetes).

METHODS: A multicentre, prospective cohort study was conducted, including 5632 adult patients with acute illnesses managed by EMS and admitted to EDs in three Spanish provinces. Patients were classified as nondiabetic, with uncomplicated diabetes, or with diabetes with complications. Multivariable analyses were used to identify predictors of 2-year mortality and determine specific glucose cut-off points.

RESULTS: In nondiabetic patients, admission glucose levels showed a U-shaped relationship with 2-year mortality, with key cut-off points at 76.1 and 143 mg/dL. Conversely, no significant association between glucose levels and mortality was observed in diabetic patients. Predictors of mortality included advanced age, high aCCI scores and organ dysfunction in nondiabetics, while diabetic patients exhibited additional alterations related to chronic inflammation and coagulation.

CONCLUSION: Admission glucose levels are a key biomarker for predicting 2-year mortality in nondiabetic patients treated in EDs, emphasizing the importance of maintaining glucose within optimal ranges. These findings support the development of personalised management strategies based on the metabolic and clinical status of patients, optimising resources and outcomes in EMS and EDs.

DOI: 10.1111/eci.70066

Journal report – září 2025

PREHOSPITAL CARE

– systematic review & meta-analysis & scoping review –

1. Int J Nurs Stud. 2025 Sep 12;172:105214. doi: 10.1016/j.ijnurstu.2025.105214.

Factors influencing pain management in patients presenting to the emergency department: A mixed-method systematic review.

Almutairi A(1), Coyer F(2), Keogh S(3), Hughes J(3).

BACKGROUND: Up to 80 % of all presentations to the emergency department are due to pain. Although pain management practices have improved over time, suboptimal pain management still occurs in the emergency department.

OBJECTIVES: To identify comprehensive factors influencing pain management outcomes among adult patients presenting to the emergency department with pain.

DESIGN: A mixed-method systematic review was conducted following the Joanna Briggs Institute convergent segregated integration methodology.

METHOD: Six databases were searched from inception to October 2024 for relevant studies, including peer-reviewed primary studies in English. Empirical studies identifying factors influencing pain management outcomes were included. The databases were searched using Medical Subject Headings terms and keywords such as 'pain management' and 'disparities.' The included studies' methodological quality was assessed using Joanna Briggs Institute checklists. Data were synthesised through meta-analysis and narrative description, followed by the convergent segregated integration of quantitative and qualitative data. The Symptom Management Theory guided this review's synthesis, interpretation, and discussion.

RESULTS: Included in this review were 109 studies, 107 quantitative and two qualitative, reporting on 45 contributing factors and 25 outcome measures representing the domains and dimensions of the Symptom Management Theory. Thirty papers were included in the meta-analysis for the most common factors (race, age, and sex) and outcome measures (receipt of analgesic medication and opioid medication). African Americans were less likely to receive analgesics (OR 0.80, 95 % CI 0.73-0.88, $p < 0.001$) and opioids (OR 0.62, 95 % CI 0.53-0.74, $p < 0.001$) compared to Non-Hispanic White patients. Hispanic patients were also less likely to receive opioids compared to Non-Hispanic White patients (OR 0.83, 95 % CI 0.75-0.92, $p = 0.04$). There was no evidence of a significant difference in the likelihood of receiving analgesics between the sexes. Older patients were less likely to receive analgesics and opioids compared to younger counterparts (OR 0.74, 95 % CI 0.67-0.83, $p < 0.001$; OR 0.90, 95 % CI 0.82-0.99, $p = 0.03$, respectively). The qualitative synthesis reinforced the quantitative

findings, providing deeper insights into the role of spiritual and socioeconomic factors, as well as opioid legislation, which shaped patient experiences in the emergency department.

CONCLUSION: This mixed-method systematic review demonstrated that several groups of patients still experience potentially inadequate pain management due to factors unrelated to the presenting condition and severity. The lack of standardisation in reporting factors and outcome measures limited the extent to which we can fully identify these associations and their impact on pain management. Future research should incorporate more qualitative designs, patient-reported outcomes, and standardised data measurement and collection. SYSTEMATIC REVIEW REGISTRATION ID: PROSPERO - CRD 42024601076.

DOI: 10.1016/j.ijnurstu.2025.105214

PMID: 40992019

2. Disaster Med Public Health Prep. 2025 Sep 22;19:e269. doi: 10.1017/dmp.2025.10189.

Spontaneous and Unplanned Mass Gathering Events: A Scoping Review of Health Considerations for Riots, Civil Unrest, and Protest.

Ranse J(1)(2), Gray L(3)(4), Mortelmans L(5), Sultana N(1)(6), Achour N(7), Barten DG(8), Carlström E(9)(10), Ciottone G(11), De Cauwer H(12)(13), Goniewicz K(14), Granholm F(15), Hertelendy AJ(11)(16)(17), Kupietz K(18), Ratnayake A(19), Robinson Y(9), Somville F(20)(21), Tin D(17)(22), Khorram-Manesh A(9)(10)(23).

OBJECTIVE: To identify the health planning, health provision, and health lessons learned from unplanned or spontaneous mass gathering events.

METHODS: This research used a scoping review design. Data was collected from 4 databases, using search terms relating to "mass gathering events," "spontaneous events," and "health services." Data was extracted relating to the event characteristics, health usage, and patient outcomes. Extracted data were deductively coded against the surge capacity domains of staff, stuff/supplies, space, and systems.

RESULTS: Ten papers were included in this review. Most spontaneous mass gathering events were related to riots, civil unrest, or unplanned large parties, which required a response from the health care system. Health staff were predominantly from an ambulance, pre-\hospital, or emergency medical services. Additional personal protective equipment, such as ballistic equipment and respiratory protection, was required.

CONCLUSIONS: The planning for a health care response to a spontaneous mass gathering event requires a risk-based approach. Such an approach should be applied in local disaster and mass casualty plans as a hazard-specific response. Preparation and response should include interagency collaboration. Enhancing the reporting of spontaneous mass gathering events will provide insights for future planning and response.

DOI: 10.1017/dmp.2025.10189

PMID: 40977193 [Indexed for MEDLINE]

3. J Spec Oper Med. 2025 Sep 26:FGHJ-K86Z. doi: 10.55460/FGHJ-K86Z. Online ahead of print.

Effectiveness of External Hemorrhage Compression Device of the Abdominal Aorta in Hemorrhagic Shock: A Systematic Review of the Literature.

Kuusisto J(1), Mattila K(2)(1), Iirola T(3)(1), Heino A(3)(1)(4)(5).

INTRODUCTION: Severe hemorrhage, notably non-compressible torso hemorrhage (NCTH) leading to hemorrhagic shock and traumatic cardiac arrest (TCA), represents a critical and challenging condition in trauma resuscitation. Despite advancements in hemorrhage control for extremities, NCTH continues to present a significant barrier to survival, particularly in the prehospital setting. The abdominal aortic and junctional tour-niquet (AAJT), an external hemorrhage control device, has emerged as a promising tool for addressing junctional and abdominal hemorrhages, yet its clinical effectiveness remains inadequately explored. This review assesses the efficacy of the AAJT in improving survival rates in patients with hemorrhagic shock.

METHODS: A systematic literature search was conducted per PRISMA guidelines. Only English-language publications published between 2019 and 2024 were included.

RESULTS: Of the nine relevant publications identified, one was a descriptive case series, seven were animal model studies, and one examined the practicality of the AAJT when tested by combat medic technicians.

CONCLUSIONS: The sparse literature did not permit a proper systematic analysis or conclusions on the clinical effectiveness of AAJT in human patients. The AAJT remains a forward-thinking and viable option for improving trauma resuscitation protocols. Further studies, particularly randomized and controlled clinical trials, are required to advance this research.

DOI: 10.55460/FGHJ-K86Z

PMID: 40952909

Journal report – září 2025

4. World J Surg. 2025 Sep 8. doi: 10.1002/wjs.70087. Online ahead of print.

Impact of Mode of Arrival to Hospital on Early Mortality in Adults With Penetrating Trauma: A Systematic Review, Meta-Analysis, and Narrative Synthesis.

McCutcheon MMR(1)(2), Allison JD(2)(3), Smith SRG(2)(4).

BACKGROUND: Penetrating injury is a time-critical disease where early definitive treatment is lifesaving. Although most patients with penetrating trauma reach the emergency department (ED) via emergency medical services (EMS), self-presentation or transport with police are also common. This review synthesizes the available evidence in adult penetrating trauma to evaluate if the mode of transport to hospital impacts early mortality.

METHODS: Two groups were defined as follows: transport to hospital with emergency medical services (EMS) and 'other' transport (private or police). Medline, Embase, and CENTRAL databases were searched as well as gray literature. Results were screened by two authors. Eligible studies were assessed for quality and risk of bias and included in both a meta-analysis using a random effects calculation of odds ratio and narrative analysis.

RESULTS: 19 studies were included overall. Meta-analysis using data from nine studies showed EMS transport did not significantly impact early mortality (OR 1.32 [95% CI 0.70-2.48] (p = 0.39)). Overall injury-severity adjusted mortality was assessed using data from 14 studies and was also not significantly affected by EMS transport (OR 1.21 [95% CI 0.93-1.59] (p = 0.16)). Data comparing injury-to-hospital arrival times for medical and nonmedical transport were limited but suggested nonmedical transport was faster amongst an urban cohort of patients.

CONCLUSIONS: There was no survival benefit associated with EMS transport among this largely USA-based urban cohort of patients with penetrating trauma. Shorter injury-to-hospital arrival times associated with nonmedical transport may, in some cases, outweigh the benefits of prehospital care. These findings support an emphasis on shortening the prehospital phase for severely injured penetrating trauma patients, which may include use of nonmedical transport where transport times are short.

DOI: 10.1002/wjs.70087

PMID: 40922043

5. Br J Community Nurs. 2025 Sep 2;30(9):439-447. doi: 10.12968/bjcn.2025.0119.

BE-FAST vs FAST in prehospital stroke recognition: a systematic review.

Hilditch M(1)(2), Brand C(3), Devlin S(3), Boyd A(4), Venema E(5).

BACKGROUND: Detecting acute ischaemic stroke in its early stages is critical for improving the patient's chances of a favorable outcome. While face, arm, speech, time (FAST) is the generally accepted tool for the prehospital screening of suspected stroke patients, it is proposed that the more extensive balance, eyes, face, arm, speech, time (BE-FAST) may improve stroke recognition.

AIMS: This systematic review compares the efficacy of FAST and BE-FAST in detecting acute stroke in prehospital settings.

METHODS: A systematic literature search was conducted across four databases including MEDLINE, ProQuest, CINAHL and PubMed. Included articles compared diagnostic performance of FAST and BE-FAST for ischaemic stroke recognition in the ambulance, or when used by emergency medical services. Only original research published in the English language was included.

RESULTS: Sensitivities of FAST ranged from 64% to 97%, while specificities ranged from 13% to 76.9%, showing a wide variation across the studies. The only study that considered BE-FAST reported its sensitivity and specificity as 91% and 53%, respectively, compared to 76% and 68%, respectively, for FAST.

CONCLUSIONS: There is limited data on the performance of BE-FAST in the prehospital setting. The findings of this systematic review suggest that both FAST and BE-FAST perform reasonably for prehospital stroke recognition, although specificity of these scales is generally low. BE-FAST may be more sensitive to detect stroke, but there is insufficient evidence to draw a conclusion.

DOI: 10.12968/bjcn.2025.0119

PMID: 40862575 [Indexed for MEDLINE]

Journal report – září 2025

6. Air Med J. 2025 Sep-Oct;44(5):420-428. doi: 10.1016/j.amj.2025.06.019. Epub 2025 Jul 14.

Common Mental Health Symptoms in Personnel Working in Helicopter Emergency Medical Services: A Systematic Review.

Damsgaard K(1), Melander-Nyboe P(2), Pihl-Thingvad J(2), Steinmetz J(3), Gehrt TB(4).

BACKGROUND: Helicopter emergency medical service (HEMS) personnel regularly respond to severe and life-threatening situations, often involving critically ill or injured patients. Yet limited research exists on their mental health outcomes compared with ground-based emergency medical services (EMS). This systematic review synthesizes empirical evidence on mental health symptoms among HEMS personnel, focusing on prevalence rates and key psychological outcomes.

METHODS: A systematic search of PubMed, PsycINFO, and Scopus identified original, quantitative studies in English or Scandinavian languages. Studies were included if they reported on at least 1 mental health outcome of interest in HEMS personnel. Study quality was rated using criteria adapted from the National Institute of Health's Quality Assessment Tool for Observational Cohort and Cross-Sectional Studies.

RESULTS: From 987 identified articles, 33 full texts were screened, and 9 studies were included, comprising 1 longitudinal and 8 cross-sectional designs. Six studies were rated as being fair quality, 2 as good, and 1 as poor. Outcomes evaluated included depression (5 studies), stress (5 studies), post-traumatic stress disorder/symptoms (PTSD; 3 studies), burnout (3 studies), anxiety (2 studies), secondary traumatic stress (1 study), and compassion fatigue (1 study). Across all studies, HEMS personnel reported low prevalence rates for mental health symptoms. However, burnout and depression were more frequently highlighted as concerns than PTSD.

CONCLUSION: Despite regular exposure to traumatic stressors, HEMS personnel report low levels of stress, PTSD, anxiety, and secondary traumatic stress, whereas burnout and depression had slightly higher levels, suggesting the need for targeted preventive interventions and support mechanisms within HEMS environments.

DOI: 10.1016/j.amj.2025.06.019

PMID: 40849160 [Indexed for MEDLINE]