



Welcome to December 2020 issue of the  
Prehospital Emergency Services Current Awareness Update.

### Amber – the home of ambulance service research

amber is available from  
<https://amber.openrepository.com> amber contains  
records of research published by researchers and staff  
working for NHS ambulance services in England.

To find out more about amber go to the LKS ASE  
[website](#). If you think your research should be included  
in amber please contact [library@nwas.nhs.uk](mailto:library@nwas.nhs.uk) We are  
still adding to amber and hope to have the database complete by December 2020.



### NHS OpenAthens

Working from home? Access resources using your NHS OpenAthens  
account. You can register for an NHS OpenAthens account at any  
time from this link [ <https://openathens.nice.org.uk> ].



### Twitter

[@LksAse](#) tweets the latest paramedic research as it's published from leading peer reviewed journals.

### KnowledgeShare your personalised Current Awareness Service

Sign up for your personalised Current Awareness Service from  
KnowledgeShare. Complete the registration form [here](#).



### Feedback

Send feedback to Matt Holland, LKS ASE Librarian (on behalf of the National Ambulance Research Steering  
Group). You can eMail Matt at [Matt.Holland@nwas.nhs.uk](mailto:Matt.Holland@nwas.nhs.uk).

*This Current Awareness Update was commissioned by the National Ambulance Research Steering Group  
comprising of research leads from ambulance trusts in England, Scotland and Wales and other experts and  
groups supporting prehospital research. The aim of the group is to support the strategic development of  
ambulance and prehospital research whether leading, collaborating in or using research.*

### Research and Best Practice

The following research papers have been published in the last couple of months. The papers have been arranged  
by the topic headings below: (Ctrl & Click on the heading to go straight to that section)

#### [Prehospital Practitioners – Professional Development](#)

*Prehospital Emergency Services Current Awareness Update – Issue 87, December 2020*

## [Prehospital Research – Methods and Discussion](#)

### [Diagnosis & Triage](#)

### [Patient Profile](#)

### [Helicopter Emergency Medical Services](#)

### [On-Scene Interventions](#)

### [Airway Management, Resuscitation & CPR](#)

### [Further Research Needed](#)

You can request papers through LKS ASE or through your local library service. You may also access papers using your NHS OpenAthens account. Some papers may be available as Open Access.

You can find the complete **archive** of the .pdf version of Prehospital Emergency Services Current Awareness Update at the link below.

<https://ambulance.libguides.com/currentawareness>

## Prehospital Practitioners – Professional Development

Request  
an article



You may also access papers using your [NHS OpenAthens account](#). Some papers may be available as Open Access.

- Abrashkin, K. A. (2021). Video or Telephone? A Natural Experiment on the Added Value of Video Communication in Community Paramedic Responses - *Annals of Emergency Medicine*. *Annals of Emergency Medicine*. <http://doi.org/10.1016/j.annemergmed.2020.04.026>
- Anderson, N.E. et al. (2021). Prehospital Resuscitation Decision Making: A model of ambulance personnel experiences, preparation and support. *Emergency medicine Australasia : EMA*. <http://doi.org/10.1111/1742-6723.13715>
- Bedson, A. (2021). Integrating research and evidence-based guidance into prescribing practice. *Journal of Paramedic Practice*. <http://doi.org/10.12968/jpar.2021.13.1.10>
- Best, P., & Taylor, V. (2021). Paramedic prescribing: implementation in practice. *Journal of Paramedic Practice*. <http://doi.org/10.12968/jpar.2021.13.1.14>
- Bijani, M., Abedi, S., Karimi, S., & Tehranineshat, B. (2021). Major challenges and barriers in clinical decision-making as perceived by emergency medical services personnel: a qualitative content analysis. *BMC Emergency Medicine*, 21(1), 1-12. <http://doi.org/10.1186/s12873-021-00408-4>
- Blodgett, J.M., et al. (2021). Alternatives to direct emergency department conveyance of ambulance patients: a scoping review of the evidence. *Scandinavian journal of trauma, resuscitation and emergency medicine*, 29(1). <http://doi.org/10.1186/s13049-020-00821-x>

- Brewster, D. J., Begley, J. L., & Marshall, S. D. (2021). Rise and fall of the aerosol box; and what we must learn from the adoption of untested equipment. <http://doi.org/10.1136/emermed-2020-210761>
- Cash, R. E., Clay, C. E., Leggio, W. J., & Jr, C. A. C. (2021). Geographic Distribution of Accredited Paramedic Education Programs in the United States. *Prehospital Emergency Care*. <https://doi.org/10.1080/10903127.2020.1856984>
- Chowdhury, S. Z., et al. (2021). Effect of Pre-Hospital Workflow Optimization on Treatment Delays and Clinical Outcomes in Acute Ischemic Stroke: A Systematic Review and Meta-Analysis. *Academic Emergency Medicine*. <https://bmcemergmed.biomedcentral.com/articles/10.1186/s12873-021-00408-4>
- Counts, C. R. (2021). Emergency Medical Services and Do Not Attempt Resuscitation directives among patients with out-of-hospital cardiac arrest - Resuscitation. *Resuscitation*. <http://doi.org/10.1016/j.resuscitation.2020.11.015>
- Duncan, P. (2021). My daunting first steps. *Journal of Paramedic Practice*. <http://doi.org/10.12968/jpar.2021.13.1.39>
- Fernandez, E., Rahman, N., Hayton, J., Crichton, C., DeWitt, V., Cattermole, G., Bruijns, S. (2021). Global health and the Royal College of Emergency Medicine: a cross-sectional survey of members and fellows. <http://doi.org/10.1136/emermed-2020-209432>
- Flowerdew, L., & Tipping, M. (2021). SECURE: a multicentre survey of the safety of emergency care in UK emergency departments. <http://doi.org/10.1136/emermed-2019-208965>
- Kaur, S. (2021). Life as a locum. *Journal of Paramedic Practice*. <http://doi.org/10.12968/jpar.2021.13.1.40>
- Martin, J. et al. (2021). Coffee & Cases: Peer learning in prehospital care. *The clinical teacher*. <http://doi.org/10.1111/tct.13326>
- Panchal, A. R., Rivard, M. K., Cash, R. E., Jr., J. P. C., Jean-Baptiste, M., Chrzan, K., & Gugiu, M. R. (2021). Methods and Implementation of the 2019 EMS Practice Analysis. *Prehospital Emergency Care*. <http://doi.org/10.1080/10903127.2020.1856985>
- Partridge, T., et al. (2021). Smartphone monitoring of in-ambulance vibration and noise. *Proceedings of the Institution of Mechanical Engineers. Part H, Journal of engineering in medicine*. <http://doi.org/10.1177/0954411920985994>
- Peate, I. (2021). The prescribing paramedic: a pharmacology series. *Journal of Paramedic Practice*. <http://doi.org/10.12968/jpar.2021.13.1.6>
- Ramos, Q. M. R. (2021). Socioeconomic disparities in Rapid ambulance response for out-of-hospital cardiac arrest in a public emergency medical service system: A nationwide observational study - Resuscitation. *Resuscitation*. <http://doi.org/10.1016/j.resuscitation.2020.11.029>
- Reed., RC, & Bourn, S., (2018). Prehospital emergency medicine - UK military experience. *BJA education*, 18(6). <http://doi.org/10.1016/j.bjae.2018.03.003>
- Scott, D., et al. (2021). Alcohol Accessibility and Family Violence-related Ambulance Attendances. *Journal of interpersonal violence*. <http://doi.org/10.1177/0886260520986262>
- Touriel, R., et al. (2021). A Pilot Study: Emergency Medical Services–Related Violence in the Out-of-Hospital Setting in Southeast Michigan. *Journal of Emergency Medicine*, 0(0). <http://doi.org/10.1016/j.jemermed.2020.12.007>
- Vogel, J.A. et al. (2021). The importance of neighborhood in 9-1-1 ambulance contacts: A geospatial analysis of medical and trauma emergencies in Denver. *Prehospital emergency care : official journal of the National Association of EMS Physicians and the National Association of State EMS Directors*. <http://doi.org/10.1080/10903127.2020.1868634>

## Prehospital Research – Methods and Discussion

Request  
an article



You may also access papers using your [NHS OpenAthens account](#). Some papers may be available as Open Access.

Strengthening the link between pre-clinical and clinical resuscitation research - Resuscitation. (2021). <http://doi.org/10.1016/j.resuscitation.2020.11.008>

Wolf, L. A. (2021). Establishing Research Priorities for the Emergency Severity Index Using a Modified Delphi Approach - Journal of Emergency Nursing. *Journal of Emergency Nursing*. <http://doi.org/10.1016/j.jen.2020.09.005>

## Helicopter Emergency Medical Services (HEMS) and Air Medical

Request  
an article



You may also access papers using your [NHS OpenAthens account](#). Some papers may be available as Open Access.

Bredmose, P. P. (2021). Live Tissue Training on Anesthetized Pigs for Air Ambulance Crews - Air Medical Journal. *Air Medical Journal*. <http://doi.org/10.1016/j.amj.2020.10.003>

Coughlan, D., et al. (2021). Secondary transfer of emergency stroke patients eligible for mechanical thrombectomy by air in rural England: economic evaluation and considerations. *Emergency Medicine Journal*. <http://doi.org/10.1136/emered-2019-209039>

Datlow, M. D., (2021). Field Diagnosis and Treatment of Hypokalemic Periodic Paralysis by a Helicopter Emergency Medical Services Team. *Air Medical Journal*, 0(0). <http://doi.org/10.1016/j.amj.2020.12.008>

de Witt, A. J. (2021). Airflow Characteristics in Aeromedical Aircraft: Considerations During COVID-19 - Air Medical Journal. *Air Medical Journal*. <http://doi.org/10.1016/j.amj.2020.10.005>

García-Pintos, M. F. (2021). Comparison of Video Versus Direct Laryngoscopy: A Prospective Prehospital Air Medical Services Study - Air Medical Journal. <http://doi.org/10.1016/j.amj.2020.10.008>

Hutin, A., Ricard-Hibon, A., Briole, N., Dupin, A., Dagrón, C., Raphalen, J. H., . . . Lamhaut, L. (2021). First Description of a Helicopter-Borne ECPR Team for Remote Refractory Out-of-Hospital Cardiac Arrest. *Prehospital Emergency Care*. <https://doi.org/10.1080/10903127.2020.1859026>

Krause, B., Lenz, T. J., & tilenz@mcw.edu. (2021). The Safety and Utility of Ground Transport of Traumatic Cardiopulmonary Arrest Patients by Helicopter Emergency Medical Services Crews. *Air Medical Journal*, 0(0). <http://doi.org/10.1016/j.amj.2020.12.006>

Lyng, J., et al. (2021). Physician Oversight of Air-based Emergency Medical Services: A Joint Position Statement of NAEMSP, ACEP, and AMPA. *Prehospital Emergency Care*. <https://doi.org/10.1080/10903127.2020.1863534>

McLachlan, S. (2021). Scoping the Demand for Night Operation of Essex & Herts Air Ambulance: A Prospective Observational Study - Air Medical Journal. *Air Medical Journal*. <http://doi.org/10.1016/j.amj.2020.11.008>

Mikati, N., Phillips, A. R., Corbelli, N., Guyette, F. X., & Liang, N. L. (2021). The effect of blood transfusion during air medical transport on transport times in patients with ruptured abdominal aortic aneurysm. *Prehospital Emergency Care*. <https://doi.org/10.1080/10903127.2020.1868636>



- Abramson, T. M., Bosson, N., Loza-Gomez, A., Eckstein, M., & Gausche-Hill, M. (2021). Utility of Glucose Testing and Treatment of Hypoglycemia in Patients with Out-of-Hospital Cardiac Arrest. *Prehospital Emergency Care*. <https://doi.org/10.1080/10903127.2020.1869873>
- Ageron, F.X. et al. (2021). Validation of the BATT score for prehospital risk stratification of traumatic haemorrhagic death: usefulness for tranexamic acid treatment criteria. *Scandinavian journal of trauma, resuscitation and emergency medicine*, 29(1). <http://doi.org/10.1186/s13049-020-00827-5>
- Adio, O.A., et al. (2020). Community Paramedics' Perception of Frequent ED Users and the Community Paramedicine Program: A Mixed-Methods Study. *Journal of health care for the poor and underserved*, 31(3). <http://doi.org/10.1353/hpu.2020.0086>
- Annison, D., & McVie, J. (2021). BET 1: Best Evidence Topic Report: is the hook test sensitive enough to be used to exclude distal biceps tendon rupture? *Emergency Medicine Journal*. doi:10.1136/emered-2020-211011.2
- Avest, E. t., Taylor, S., Wilson, M., & Lyon, R. L. (2021). Prehospital clinical signs are a poor predictor of raised intracranial pressure following traumatic brain injury. <http://doi.org/10.1136/emered-2020-209635>
- Carpenter, C. R., et al. (2021). Delirium Prevention, Detection, and Treatment in Emergency Medicine Settings: A Geriatric Emergency Care Applied Research (GEAR) Network Scoping Review and Consensus Statement. *Academic Emergency Medicine*, 28(1), 19-35. <https://doi.org/10.1111/acem.14166>
- Chiu, Yu-Chen et al. (2020). External validation of prehospital stroke scales for emergent large vessel occlusion. *The American journal of emergency medicine*, 41. <http://doi.org/10.1016/j.ajem.2020.12.011>
- Crowe, R. P., Myers, J. B., Fernandez, A. R., Bourn, S., & McMullan, J. T. (2020). The Cincinnati Prehospital Stroke Scale Compared to Stroke Severity Tools for Large Vessel Occlusion Stroke Prediction. <https://doi.org/10.1080/10903127.2020.1725198>
- Dowbiggin, P. L., Infinger, A. I., Purick, G., Swanson, D. R., & Studnek, J. R. (2021). Inter-Rater Reliability of the FAST-ED in the Out-of-Hospital Setting. *Prehospital Emergency Care*. <http://doi.com/10.1080/10903127.2020.1852350>
- Goyal, M., & Marko, M., (2021). Optimising prehospital stroke triage in a changing landscape. *The Lancet. Neurology*. [http://doi.org/10.1016/S1474-4422\(20\)30488-9](http://doi.org/10.1016/S1474-4422(20)30488-9)
- Goyal, M., & Ospel, J.M. (2021). Adapting pre-hospital stroke triage systems to expanding thrombectomy indications. *Neuroradiology*. <http://doi.org/10.1007/s00234-021-02638-6>
- Huang, J.-B., et al. (2021). Association between prehospital prognostic factors on out-of-hospital cardiac arrest in different age groups. *BMC Emergency Medicine*, 21(1), 1-8. <http://doi.org/10.1186/s12873-020-00400-4>
- Krebs, S., Roth, D., Knoflach, M., Baubin, M., Lang, W., Beisteiner, R., . . . Sykora, M. (2021). Design and Derivation of the Austrian Prehospital Stroke Scale (APSS) to Predict Severe Stroke with Large Vessel Occlusion. *Prehospital Emergency Care*. <http://doi.org/10.1080/10903127.2020.1851329>

- Linakis, S. W., Lloyd, J. K., Kline, D., Holmes, J. F., Stanley, R. M., & Leonard, J. C. (2020). Field triage of children with abdominal trauma: *Trauma*. <http://doi.org/10.1177/1460408620933524>
- Magnusson, C., et al. (2021). Prehospital lactate levels in blood as a seizure biomarker: A multi-center observational study. *Epilepsia*. <http://doi.org/10.1111/epi.16806>
- Minion, S. C., et al. (2021). An educational module to improve knowledge of delirium screening in the Emergency Department. *The American Journal of Emergency Medicine*, 0(0). <http://doi.org/10.1016/j.ajem.2021.01.031>
- Nadolny, K., (2021). Glasgow coma scale score of more than four on admission predicts in-hospital survival in patients after out-of-hospital cardiac arrest. *The American Journal of Emergency Medicine*, 0(0). <http://doi.org/10.1016/j.ajem.2021.01.018>
- Peran, D., Kodet, J., Pekara, J., Mala, L., Truhlar, A., Cmorej, P. C., . . . Sykora, R. (2020). ABCDE cognitive aid tool in patient assessment – development and validation in a multicenter pilot simulation study. *BMC Emergency Medicine*, 20(1), 1-8. <http://doi.org/10.1186/s12873-020-00390-3>
- Schutzman, S. A., et al., (2021). The Infant Scalp Score: A Validated Tool to Stratify Risk of Traumatic Brain Injury in Infants With Isolated Scalp Hematoma. *Academic Emergency Medicine*, 28(1), 92-97. <https://doi.org/10.1111/acem.14087>
- Warwick, J.W. et al. (2020). Association of Prehospital Step 1 Vital Sign Criteria and Vital Sign Decline with Increased Emergency Department and Hospital Death. *Journal of the American College of Surgeons*. <http://doi.org/10.1016/j.jamcollsurg.2020.12.009>
- Wray, J. P. (2021). The diamond of death: Hypocalcemia in trauma and resuscitation - The American Journal of Emergency Medicine. *American Journal of Emergency Medicine*. <http://doi.org/10.1016/j.ajem.2020.12.065>
- Zhao, H., et al. (2021). Utility of Severity-Based Prehospital Triage for Endovascular Thrombectomy: ACT-FAST Validation Study. *Stroke*, 52(1). <http://doi.org/10.1161/STROKEAHA.120.031467>

## Patient Profile

Request  
an article



You may also access papers using your [NHS OpenAthens account](#). Some papers may be available as Open Access.

## Children

- Arora, R., et al. (2021). Pediatric minor head injury related return visits to the emergency department and their outcome. *The American Journal of Emergency Medicine*, 0(0). <http://doi.org/10.1016/j.ajem.2021.01.036>
- Bayouth, L., et al. (2020). Level of Comfort With Pediatric Trauma Transports: Survey of Prehospital Providers. *The American surgeon*. <http://doi.org/10.1177/0003134820973374>
- Gausche-Hill, M., Krug, S., & Wright, J. (2020). Emergency Medical Services (EMS) 2050: A Vision for the Future of Pediatric Prehospital Care. *Prehospital Emergency Care* <https://doi.org/10.1080/10903127.2020.1734123>
- Greenfield, G., Blair, M., Aylin, P. P., Saxena, S., Majeed, A., & Bottle, A. (2021). Characteristics of frequent paediatric users of emergency departments in England: an observational study using routine national data. <http://doi.org/10.1136/emmermed-2019-209122>
- Haskins, B., et al. (2021). Comparison of out-of-hospital cardiac arrests occurring in schools and other public locations: a 12-year retrospective study. *Prehospital Emergency Care*. <https://doi.org/10.1080/10903127.2021.1873471>

Lerner, E. B., et al. (2020). Does Mechanism of Injury Predict Trauma Center Need for Children? Prehospital Emergency Care <https://doi.org/10.1080/10903127.2020.1737281>

Toida, C., & Muguruma, T., (2020). Prehospital medical equipment for care of pediatric injury patients in Japanese ambulances: a nationwide survey. *Acute medicine & surgery*, 7(1). <http://doi.org/10.1002/ams2.605>

## Conditions

McCann, M. K., Jusko, T. A., Jones, C. M. C., Seplaki, C. L., & Cushman, J. T. (2020). Degree of Bystander-Patient Relationship and Prehospital Care for Opioid overdose. <https://doi.org/10.1080/10903127.2020.1731029>

van Woerden, H., et al. (2020). Factors influencing hospital conveyance following ambulance attendance for people with diabetes: A retrospective observational study. *Diabetic medicine : a journal of the British Diabetic Association*. <http://doi.org/10.1111/dme.14384>

## Older People

Hjalmarsson, A., Holmberg, M., Asp, M., Östlund, G., Nilsson, K. W., & Kerstis, B. (2020). Characteristic patterns of emergency ambulance assignments for older adults compared with adults requiring emergency care at home in Sweden: a total population study. *BMC Emergency Medicine*, 20(1), 1-12. <http://doi.org/10.1186/s12873-020-00387-y>

van Vuuren, J. et al (2021). Reshaping healthcare delivery for elderly patients: the role of community paramedicine; a systematic review. *BMC health services research*, 21(1). <http://doi.org/10.1186/s12913-020-06037-0>

## Refugees

Jafar, A. J. N. (2021). Advocating for those who need it most: our responsibility for delivering appropriate care to refugee and asylum seeking patients. <http://doi.org/10.1136/emered-2020-210800>

Nijman, R. G., Krone, J., Mintegi, S., Bidlingmaier, C., Maconochie, I. K., Lyttle, M. D., & Both, U. v. (2021). Emergency care provided to refugee children in Europe: RefuNET: a cross-sectional survey study. <http://doi.org/10.1136/emered-2019-208699>

## On-Scene Interventions

Request  
an article



You may also access papers using your [NHS OpenAthens account](#). Some papers may be available as Open Access.

Ala, A., et al. (2021). Philadelphia versus Miami J cervical collar's impact on pulmonary function. *The American Journal of Emergency Medicine*, 0(0). <http://doi.org/10.1016/j.ajem.2021.01.043>

Angermann, S., et al. (2021). Characteristics of nontrauma patients receiving prehospital blood transfusion with the same triggers as trauma patients: A retrospective observational cohort study. *Prehospital emergency care : official journal of the National Association of EMS Physicians and the National Association of State EMS Directors*. <http://doi.org/10.1080/10903127.2021.1873472>

Bedard, A. F., et al. (2020). A scoping review of worldwide studies evaluating the effects of prehospital time on trauma outcomes. *International Journal of Emergency Medicine*, 13(1), 1-19. <http://doi.org/10.1186/s12245-020-00324-7>

*Prehospital Emergency Services Current Awareness Update – Issue 87, December 2020*

- Bedri, H. et al. (2021). Tourniquet Application for Bleeding Control in a Rural Trauma System: Outcomes and Implications for Prehospital Providers. *Prehospital emergency care : official journal of the National Association of EMS Physicians and the National Association of State EMS Directors*. <http://doi.org/10.1080/10903127.2020.1868635>
- Bernon, P., Mrozek, S., Dupont, G., Dailler, F., Lukaszewicz, A.-C., & Balanço, B. (2021). Can prone positioning be a safe procedure in patients with acute brain injury and moderate-to-severe acute respiratory distress syndrome? *Critical Care*, 25(1), 1-3. <http://doi.org/10.1186/s13054-020-03454-9>
- Çağlar, A., et al. (2020). Impact of personal protective equipment on prehospital endotracheal intubation performance in simulated manikin. *Australasian emergency care*. <http://doi.org/10.1016/j.auec.2020.11.003>
- Chiew, A. L., et al. (2021). Effect of tourniquet time on whole blood point-of-care lactate concentration: A healthy human volunteer study. *Emergency Medicine Australasia*. <https://doi.org/10.1111/1742-6723.13697>
- Clemency, B. M., et al. (2021). Changes in Field Termination of Resuscitation and Survival Rates After an Educational Intervention to Promote on Scene Resuscitation for Out-of-Hospital Cardiac Arrest. *Journal of Emergency Medicine*, 0(0). <http://doi.org/10.1016/j.jemermed.2020.10.003>
- Crewdson, K., et al. (2021). Apnoeic oxygenation for emergency anaesthesia of pre-hospital trauma patients. *Scandinavian journal of trauma, resuscitation and emergency medicine*, 29(1). <http://doi.org/10.1186/s13049-020-00817-7>
- Endo, A., et al. (2021). Physician-led prehospital management is associated with reduced mortality in severe blunt trauma patients: a retrospective analysis of the Japanese nationwide trauma registry. *Scandinavian journal of trauma, resuscitation and emergency medicine*, 29(1). <http://doi.org/10.1186/s13049-020-00828-4>
- Fisher, A.D., et al. (2020). Blood Product Administration During the Role 1 Phase of Care: The Prehospital Trauma Registry Experience. *Military medicine*. <http://doi.org/10.1093/milmed/usaa563>
- Forster, Johannes et al. (2020). Effect of Prehospital Antibiotic Therapy on Clinical Outcome and Pathogen Detection in Children With Parapneumonic Pleural Effusion/Pleural Empyema. *The Pediatric infectious disease journal, Publish Ahead of Print*. <http://doi.org/10.1097/INF.0000000000003036>
- Gaudart, P. (2021). The reverse vagal manoeuvre: A new tool for treatment of supraventricular tachycardia? - The American Journal of Emergency Medicine. *American Journal of Emergency Medicine*. <http://doi.org/10.1016/j.ajem.2020.12.061>
- Hawkrige, K., et al. (2020). Evidence for the use of spinal collars in stabilising spinal injuries in the pre-hospital setting in trauma patients: a systematic review. *European journal of trauma and emergency surgery : official publication of the European Trauma Society*. <http://doi.org/10.1007/s00068-020-01576-x>
- Krebs, W. (2021). Prehospital Ketamine Use for Rapid Sequence Intubation: Are Higher Doses Associated With Adverse Events? - Air Medical Journal. *Air Medical Journal*. <http://doi.org/10.1016/j.amj.2020.11.007>
- Law, A. (2021). Should ascorbic acid be a primary therapy for sepsis in prehospital settings? *Journal of Paramedic Practice*. <http://doi.org/10.12968/jpar.2021.13.1.33>
- McDonald, N., Kriellaars, D., Weldon, E., & Pryce, R. (2020). Head-Neck Motion in Prehospital Trauma Patients under Spinal Motion Restriction: A Pilot Study. <https://doi.org/10.1080/10903127.2020.1727591>



- Michalsen, K.S., et al. (2020). Prehospital Transfusion of Red Blood Cells and Plasma by an Urban Ground-Based Critical Care Team. *Prehospital and disaster medicine*.  
<http://doi.org/10.1017/S1049023X20001491>
- Mikkelsen, Vibe S. (2021). Pre-hospital antibiotic therapy preceded by blood cultures in a physician-manned mobile emergency care unit. *Acta anaesthesiologica Scandinavica*.  
<http://doi.org/10.1111/aas.13777>
- Morgan, O., Yarham, E., Hudson, A., & Cole, E. (2020). Do pre-hospital physicians improve mortality in major trauma patients? A systematic review:. *Trauma*.  
[http://doi.org/10.1177\\_1460408620953056](http://doi.org/10.1177_1460408620953056)
- Nehme, Z. (2021). Early transport for ECMO or on-scene resuscitation for out-of-hospital cardiac arrests? - Resuscitation. *Resuscitation*. <http://doi.org/10.1016/j.resuscitation.2021.01.014>
- Pierrie, S. N. (2021). Pilot randomized trial of pre-hospital advanced therapies for the control of hemorrhage (PATCH) using pelvic binders - The American Journal of Emergency Medicine. <http://doi.org/10.1016/j.ajem.2020.12.082>
- Rodriguez, A. (2021). Heating Intravenous Fluid Tubing in an Experimental Setting for Prehospital Hypothermia - Air Medical Journal. *Air Medical Journal* <http://doi.org/10.1016/j.amj.2020.10.009>
- Ruangsomboon, O., et al. (2021). Nasal High-flow Oxygen Versus Conventional Oxygen Therapy for Acute Severe Asthma Patients: A Pilot Randomized Controlled Trial. *Academic Emergency Medicine*. <http://doi.org/10.1111/acem.14187>
- Ryan, K. M., et al. Advisory Council, t. S., NW, Washington, DC 20006, United States. (2021). Impact of prehospital airway interventions on outcome in cardiac arrest following drowning: A study from the CARES Surveillance Group. *Resuscitation*, 0(0).  
<http://doi.org/10.1016/j.resuscitation.2020.12.027>
- Schneider, B.C. (2021). Advanced prehospital stroke care: Mobile stroke treatment unit. *Nursing management*, 52(1). <http://doi.org/10.1097/01.numa.0000724908.52219.43>
- Sumann, G., (2020). Multiple trauma management in mountain environments - a scoping review. *Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine*, 28(1), 1-22.  
<http://doi.org/10.1186/s13049-020-00790-1>
- Wilson, A., et al. (2021). Factors affecting paramedicine students' learning about evidence-based practice: a phenomenographic study. *BMC medical education*, 21(1).  
<http://doi.org/10.1186/s12909-021-02490-5>

## Airway Management, Resuscitation & CPR

Request  
an article



You may also access papers using your [NHS OpenAthens account](#). Some papers may be available as Open Access.

- Abir, M. (2021). Variation in pre-hospital outcomes after out-of-hospital cardiac arrest in Michigan - Resuscitation. *Resuscitation*. <https://doi.org/10.1016/j.resuscitation.2020.11.034>
- Aissaoui, N., et al. (2021). Extra-corporeal life support for life-saving interventions: Another brick in the wall. *Resuscitation*, 0(0). <http://doi.org/10.1016/j.resuscitation.2020.12.024>
- Alqudah, Z. (2021). Impact of temporal changes in the epidemiology and management of traumatic out-of-hospital cardiac arrest on survival outcomes - Resuscitation. *Resuscitation*.  
<http://doi.org/10.1016/j.resuscitation.2020.11.026>

- Benger, J. R. (2021). Randomized trial of the i-gel supraglottic airway device versus tracheal intubation during out of hospital cardiac arrest (AIRWAYS-2): Patient outcomes at three and six months - Resuscitation. *Resuscitation*. <http://doi.org/10.1016/j.resuscitation.2020.09.026>
- Benoit, J. L., et al. (2021). Duration of exposure to a prehospital advanced airway and neurological outcome for out-of-hospital cardiac arrest: A retrospective cohort study. *Resuscitation*, 0(0). <http://doi.org/10.1016/j.resuscitation.2021.01.009>
- Bonnette, A. J. (2021). Bougie-assisted endotracheal intubation in the pragmatic airway resuscitation trial - Resuscitation. *Resuscitation*. <http://doi.org/10.1016/j.resuscitation.2020.11.003>
- Brown, N., & Quinn, T. (2021). Focused cardiac ultrasound in out-of-hospital cardiac arrest: a literature review. *Journal of Paramedic Practice*. <http://doi.org/10.12968/jpar.2021.13.1.26>
- Choi, S., et al. (2021). Effects of vibration-guided cardiopulmonary resuscitation with a smartwatch versus metronome guidance cardiopulmonary resuscitation during adult cardiac arrest: a randomized controlled simulation study. *Australasian Emergency Care*, 0(0). <http://doi.org/10.1016/j.auec.2020.12.002>
- Cournoyer, A. (2021a). Can a Shockable Initial Rhythm Identify Out-of-Hospital Cardiac Arrest Patients with a Short No-flow Time? - Resuscitation. *Resuscitation*. <http://doi.org/10.1016/j.resuscitation.2020.11.012>
- Deakin, C. D. (2021). The effect of airway management on CPR quality in the PARAMEDIC2 randomised controlled trial - Resuscitation. *Resuscitation*. <http://doi.org/10.1016/j.resuscitation.2020.11.005>
- Ecker, H., Wingen, S., Hamacher, S., Lindacher, F., Böttiger, B. W., & Wetsch, W. A. (2020). Evaluation Of CPR Quality Via Smartphone With A Video Livestream – A Study In A Metropolitan Area. <https://doi.org/10.1080/10903127.2020.1734122>
- Fujita, K., et al. (2020). Prehospital extracorporeal cardiopulmonary resuscitation for cardiac arrest patients in rural areas: a case report of two patients. *Acute medicine & surgery*, 7(1). <http://doi.org/10.1002/ams2.577>
- Gelber, J. (2021). A prospective study of the incidence of intracranial hemorrhage in survivors of out of hospital cardiac arrest - The American Journal of Emergency Medicine. *Resuscitation*. <http://doi.org/10.1016/j.ajem.2020.12.015>
- Graaf, C. et al. (2021). Analyzing the heart rhythm during chest compressions: Performance and clinical value of a new AED algorithm. *Resuscitation*, 0(0). <http://doi.org/10.1016/j.resuscitation.2021.01.003>
- Gurnaney, H. G., et al. (2021). Supraglottic airway and aerosol generation: Reality or simulation? *Resuscitation*, 0(0). <http://doi.org/10.1016/j.resuscitation.2020.11.041>
- Hansen, M. L., Wagner, A., Schnapp, A., Lin, A., Le, N., Deverman, S., . . . Kato, M. (2021). Cluster cross-over randomised trial of paediatric airway management devices in the simulation lab and operating room among paramedic students. <http://doi.org/10.1136/emmermed-2020-209929>
- Jadhav, S. (2021). Gender and location disparities in prehospital bystander AED usage - Resuscitation. *Resuscitation*. <http://doi.org/10.1016/j.resuscitation.2020.11.006>
- Kazan, C. (2021). The Performance of Manual Versus Mechanical Cardiopulmonary Resuscitation During a Simulated Rescue Boat Transport in Cardiac Arrest - Air Medical Journal. *Air Medical Journal*. <http://doi.org/10.1016/j.amj.2020.10.007>
- Khalifa, A., et al. (2021). Surviving traumatic cardiac arrest: Identification of factors associated with survival. *The American Journal of Emergency Medicine*, 0(0). <http://doi.org/10.1016/j.ajem.2021.01.020>

- Kim, J. H., et al. (2021). QRS complex characteristics and patient outcomes in out-of-hospital pulseless electrical activity cardiac arrest. <http://doi.org/10.1136/emered-2020-209623>
- Lauridsen, K. G. (2021). Clinical decision rules for termination of resuscitation during in-hospital cardiac arrest: A systematic review of diagnostic test accuracy studies - Resuscitation. *Resuscitation*. <http://doi.org/10.1016/j.resuscitation.2020.10.036>
- Lesnick, J. A. (2021). Airway insertion first pass success and patient outcomes in adult out-of-hospital cardiac arrest: The Pragmatic Airway Resuscitation Trial - Resuscitation. *Resuscitation*. <http://doi.org/10.1016/j.resuscitation.2020.11.030>
- Li, J. (2021). Out-of-hospital cardiac arrest patients with implantable cardioverter-defibrillators: What are their outcomes? - Resuscitation. *Resuscitation*. <http://doi.org/10.1016/j.resuscitation.2020.10.016>
- McCambridge, J., et al. (2020). The prehospital patient pathway and experience of care with acute heart failure: a comparison of two health care systems. *ESC heart failure*. <http://doi.org/10.1002/ehf2.13089>
- Mckenzie, N. (2021). Non-linear association between arterial oxygen tension and survival after out-of-hospital cardiac arrest: A multicentre observational study - Resuscitation. *Resuscitation*. <http://doi.org/10.1016/j.resuscitation.2020.11.021>
- Majewski, D. (2021). Relative long-term survival in out-of-hospital cardiac arrest: Is it really improving? - Resuscitation. *Resuscitation*. <http://doi.org/10.1016/j.resuscitation.2020.10.017>
- Miller, K. A., Monuteaux, M. C., & Nagler, J. (2021). Technical factors associated with first-pass success during endotracheal intubation in children: analysis of videolaryngoscopy recordings. <http://doi.org/10.1136/emered-2020-209700>
- Nguyen, M.-L. (2021). Traumatic and hemorrhagic complications after extracorporeal cardiopulmonary resuscitation for out-of-hospital cardiac arrest - Resuscitation. *Resuscitation*. <http://doi.org/10.1016/j.resuscitation.2020.09.035>
- Olsen, M. H. (2021). Randomized blinded trial of automated REBOA during CPR in a porcine model of cardiac arrest - Resuscitation. <http://doi.org/10.1016/j.resuscitation.2021.01.010>
- Orso, D., et al. (2020). Endotracheal intubation to reduce aspiration events in acutely comatose patients: a systematic review. *Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine*, 28(1), 1-10. <http://doi.org/10.1186/s13049-020-00814-w>
- Otero-Agra, M. (2021). CPR by foot. An alternative in special circumstances? A randomized simulation study - The American Journal of Emergency Medicine. *American Journal of Emergency Medicine*. <http://doi.org/10.1016/j.ajem.2020.12.086>
- Pak, J. E. (2021). Association between chronic liver disease and clinical outcomes in out-of-hospital cardiac arrest - Resuscitation. *Resuscitation*. <http://doi.org/10.1016/j.resuscitation.2020.10.040>
- Rodriguez, R. M. (2021). NAloxone CARdiac Arrest Decision Instruments (NACARDI) for targeted antidotal therapy in occult opioid overdose precipitated cardiac arrest - Resuscitation. *Resuscitation*. <http://doi.org/10.1016/j.resuscitation.2020.12.009>
- Sawyer, T. (2021). Neonatal resuscitation: Airway, Breathing, and then Chest compressions - Resuscitation. <http://doi.org/10.1016/j.resuscitation.2020.11.001>
- Singer, B., et al. (2020). Sub30: Protocol for the Sub30 feasibility study of a pre-hospital Extracorporeal membrane oxygenation (ECMO) capable advanced resuscitation team at achieving blood flow within 30 min in patients with refractory out-of-hospital cardiac arrest. *Resuscitation plus*, 4. <http://doi.org/10.1016/j.resplu.2020.100029>
- Shin, J. (2021). Merits of expanding the Utstein case definition for out of hospital cardiac arrest - Resuscitation. *Resuscitation*. <http://doi.org/10.1016/j.resuscitation.2020.10.041>

- Somri, M. (2021a). A simple method to prevent aerosol dispersion during Cardiopulmonary Resuscitation using supraglottic airway devices - Resuscitation. *Resuscitation*. <http://doi.org/10.1016/j.resuscitation.2020.12.012>
- Spoormans, E. M. (2021). Sex differences in patients with out-of-hospital cardiac arrest without ST-segment elevation: A COACT trial substudy - Resuscitation. *Resuscitation*. <http://doi.org/10.1016/j.resuscitation.2020.10.026>
- Tram, J. (2021). Percutaneous mechanical circulatory support and survival in patients resuscitated from Out of Hospital cardiac arrest: A study from the CARES surveillance group - Resuscitation. *Resuscitation*. <http://doi.org/10.1016/j.resuscitation.2020.10.046>
- Valeriano, A. (2021). Crowdsourcing to save lives: A scoping review of bystander alert technologies for out-of-hospital cardiac arrest - Resuscitation. *Resuscitation*. <http://doi.org/10.1016/j.resuscitation.2020.10.035>
- Woo, J.-H., (2020). Survival and Rearrest in out-of-Hospital Cardiac Arrest Patients with Prehospital Return of Spontaneous Circulation: A Prospective Multi-Regional Observational Study. <https://doi.org/10.1080/10903127.2020.1733716>
- Zègre-Hemsey, J. K. (2021). Delivery of Automated External Defibrillators via Drones in Simulated Cardiac Arrest: Users' Experiences and the Human-Drone Interaction - Resuscitation. *Resuscitation*. <http://doi.org/10.1016/j.resuscitation.2020.10.006>

### Further Research Needed ...

Request  
an article



You may also access papers using your [NHS OpenAthens account](#). Some papers may be available as Open Access.

Blodgett, J.M., et al. (2021). Alternatives to direct emergency department conveyance of ambulance patients: a scoping review of the evidence. *Scandinavian journal of trauma, resuscitation and emergency medicine*, 29(1). <http://doi.org/10.1186/s13049-020-00821-x>

**CONCLUSIONS:** This broad summary offers initial support for alternate routes of care for intermediate, non-urgent patients. Even so, most studies lacked methodologically rigorous evidence and failed to evaluate safe patient outcomes. Some remedies appear to be available such as formal triage pathways, targeted training and organisational support, however there is an **urgent need for more research and dissemination in this area.**

Chowdhury, S. Z., et al. (2021). Effect of Pre-Hospital Workflow Optimization on Treatment Delays and Clinical Outcomes in Acute Ischemic Stroke: A Systematic Review and Meta-Analysis. *Academic Emergency Medicine*. <https://bmccemergmed.biomedcentral.com/articles/10.1186/s12873-021-00408-4>

**Conclusions:** This systematic review and meta-analysis found that PSWO significantly improves several time metrics related to stroke treatment leading to improvement in IVT reperfusion rates. Thus, the implementation of these measures in stroke networks is a promising avenue to improve an often-neglected aspect of the stroke response. However, the limited available data suggest functional outcomes and mortality are not significantly improved by PSWO, hence **further studies and improvement strategies vis a vis PSWOs are warranted.**

van Woerden, H., et al. (2020). Factors influencing hospital conveyance following ambulance attendance for people with diabetes: A retrospective observational study. *Diabetic medicine : a journal of the British Diabetic Association*. <http://doi.org/10.1111/dme.14384>

**CONCLUSION:** A higher rate of conveyance associated with hyperglycaemic cases indicates a need for more resources, education and training in this area. Higher conveyance rates were also associated with no paramedic being present and no treatment being administered. This suggests that paramedic attendance may be crucial in reducing avoidable admissions. **Developing and validating protocols for pre-hospital services and treatment may help to reduce hospital conveyance rates.**

Hawkrige, K., et al. (2020). Evidence for the use of spinal collars in stabilising spinal injuries in the pre-hospital setting in trauma patients: a systematic review. *European journal of trauma and emergency surgery : official publication of the European Trauma Society*. <http://doi.org/10.1007/s00068-020-01576-x>

**Conclusion:** Our study shows a disparity between current guidelines and the published literature and warrants **further direct research to obtain a more comprehensive view of the use of spinal collars in a pre-hospital setting.**

Valeriano, A. (2021). Crowdsourcing to save lives: A scoping review of bystander alert technologies for out-of-hospital cardiac arrest - Resuscitation. *Resuscitation*. <http://doi.org/10.1016/j.resuscitation.2020.10.035>

**Conclusion:** Our review provides a comprehensive overview of crowdsourcing technologies for bystander intervention in out-of-hospital cardiac arrest. Future work should focus on clinical outcomes and methods of addressing barriers to implementation.

### How to contact your Library Service

Service	Contact	Services Offered
All Ambulance Services in England except SWAST, IOW and LAS.	eMail: <a href="mailto:Matt.Holland@nwas.nhs.uk">Matt.Holland@nwas.nhs.uk</a> Link to: <a href="#">Library Website</a>	Document Supply; Searches; Current Awareness; Guides & Help;
South Western Ambulance Service	eMail: <a href="mailto:library.mailbox@nhs.net">library.mailbox@nhs.net</a> Link to: <a href="http://discoverylibrary.org/SWASFT">http://discoverylibrary.org/SWASFT</a>	Document Supply; Searches; Current Awareness; Guides & Help;
Isle of Wight	eMail: <a href="mailto:library@iow.nhs.uk">library@iow.nhs.uk</a> Link to: <a href="#">Library Website</a>	Full library membership of the Oliveira Library.
London Ambulance Service	eMail: <a href="mailto:londamb.clinical.temp@nhs.net">londamb.clinical.temp@nhs.net</a>	Document Supply, Research