

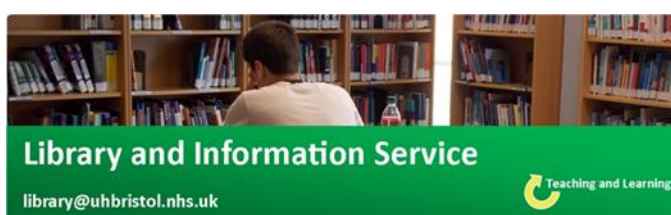
Adult Emergency Medicine

Evidence Update



OCTOBER 2017
(Quarterly)

Respecting everyone
Embracing change
Recognising success
Working together
Our hospitals.



Lunchtime Drop-in Sessions

All sessions last one hour

October (12.00-13.00)

| | |
|-----------|----------------------|
| 6th Fri | Statistics |
| 9th Mon | Literature searching |
| 17th Tues | Critical Appraisal |
| 25th Wed | Statistics |



November (13.00-14.00)

| | |
|-----------|----------------------|
| 2nd Thurs | Literature searching |
| 10th Fri | Critical Appraisal |
| 13th Mon | Statistics |
| 21st Tues | Literature searching |
| 29th Wed | Critical Appraisal |

December (12.00-13.00)

| | |
|-----------|----------------------|
| 7th Thurs | Statistics |
| 15th Fri | Literature searching |

Contents

| | |
|---|----|
| Lunchtime Drop-in Sessions | 1 |
| Your Outreach Librarian- Jo Hooper | 3 |
| Tables of Contents from Emergency Medicine Journals | 4 |
| Emergency Medicine Journal | 4 |
| Annals of Emergency Medicine | 6 |
| Academic Emergency Medicine | 8 |
| European Journal of Emergency Medicine | 9 |
|  | 10 |
|  | 11 |
| NICE National Institute for Health and Care Excellence | 11 |
| Recent Database Articles | 12 |

Your Outreach Librarian- Jo Hooper

Whatever your information needs, the library is here to help. As your Outreach Librarian I offer **literature searching services** as well as training and guidance in **searching the evidence** and **critical appraisal** – just email me at library@uhbristol.nhs.uk

Outreach: Your Outreach Librarian can help facilitate evidence-based practise for all in the oral and maxillofacial surgery team, as well as assisting with academic study and research. We can help with **literature searching, obtaining journal articles and books**, and setting up individual **current awareness alerts**. We also offer one-to-one or small group training in **literature searching, accessing electronic journals, and critical appraisal**.

Get in touch: library@uhbristol.nhs.uk

Literature searching: We provide a literature searching service for any library member. For those embarking on their own research it is advisable to book some time with one of the librarians for a one-to-one session where we can guide you through the process of creating a well-focused literature research and introduce you to the health databases access via NHS Evidence. Please email requests to library@uhbristol.nhs.uk

Tables of Contents from Emergency Medicine Journals

- [Emergency Medicine Journal](#)
- [Annals of Emergency Medicine](#)
- [Academic Emergency Medicine](#)
- [European Journal of Emergency Medicine](#)

Click on the hyperlinked title (+ Ctrl) for contents. If you require any of the articles in full please email: library@uhbristol.nhs.uk

[Emergency Medicine Journal](#)

October 2017 - Volume 34 - 10

Primary survey

[Highlights from this issue](#) Free

Editorial

[Whole body computed tomography for trauma: friend or foe?](#)

Original articles

[Ibuprofen versus placebo effect on acute kidney injury in ultramarathons: a randomised controlled trial](#)

[Non-traumatic incidental findings in patients undergoing whole-body computed tomography at initial emergency admission](#)

[The use of whole-body computed tomography in major trauma: variations in practice in UK trauma hospitals](#)

[Gender, race and the presentation of acute coronary syndrome and serious cardiopulmonary diagnoses in ED patients with chest pain](#)

[Out-of-hospital cardiac arrests in the older population in Ireland](#)

[Predictors of repeat visits to hospital psychiatric emergency departments in Malaga \(Spain\) and in Lisbon \(Portugal\)](#)

[Primary care services co-located with Emergency Departments across a UK region: early views on their development](#)

[A frog in the throat?](#)

Short report

[Association of magnetic resonance imaging for back pain on seven-day return visit to the Emergency Department](#)

Review

[Extreme event medicine: considerations for the organisation of out-of-hospital care during obstacle, adventure and endurance competitions](#)

[Man with leg rash](#)

Best evidence topic reports

[Towards evidence based emergency medicine: best BETs from the Manchester Royal Infirmary](#)

[BET 1: Prednisolone for the treatment of acute gouty arthritis](#)

[BET 2: Treatment of frostbite with iloprost](#)

Image challenges

[A frog in the throat?](#)

[Man with leg rash](#)

Global Highlights

[Global Abstracts](#)

PostScripts

[Letter: Pharmacy preceptorship in the emergency department](#)

[Correction: Organ donation in the emergency department](#)

Prize winning 999 Abstracts 2017

[01 Investigating the population characteristics, processes and outcomes of pre-hospital psychiatric and self-harm emergencies in scotland: a national record linkage study](#)

[02 A pilot study to assess the feasibility of paramedics delivering antibiotic treatment to 'red flag' sepsis patients](#)

[03 Data linkage across ambulance services and acute trusts: challenges and opportunities](#)

[04 Paramedic perspectives towards gp referral schemes in north west england: a qualitative-observational study](#)

[05 Exploring why 'primary care' problems end up receiving ambulance treatment: early findings from a pre-hospital ethnographic study](#)

In Perspective

[Is less more, or is it less? The growing evidence on high-intensity hospital care](#)

Oral Presentations

[OP06 Multi-method development of new ambulance service quality and performance measures](#)

[OP07 Might ambulance service organisational culture affect ambulance non conveyance rates?](#)

Poster Presentations

[PP08 Does current pre-hospital analgesia effectively reduce paediatric pain within a uk ambulance service: a service evaluation](#)

[PP09 Pre-hospital diagnostic accuracy for hyperventilation syndrome](#)

[PP10 Does the use of a post-rosco checklist improve paramedic adherence to local clinical guidance? a mannequin-based pilot randomised controlled study](#)

[PP11 Do paediatric early warning score relate to emergency department outcomes for children aged 0–2 years brought in by ambulance?](#)

[PP12 New indicators for measuring patient survival following ambulance service care](#)

[PP13 New signs to encourage the use of automated external defibrillators by the lay public](#)

[PP14 Development of a prehospital assessment to identify stroke mimic conditions](#)

[PP15 Consent as an ethical consideration in the conduct of prehospital ambulance randomised controlled clinical trials: a systematic review](#)

[PP16 Creating a linked dataset to explore patient outcomes after leaving ambulance care](#)

[PP17 Reliability and validity of an ambulance patient reported experience measure \(a-prem\): pilot study](#)

[PP18 Interim analysis of ambulance logistics and timings in patients recruited into the rapid intervention with glyceryl trinitrate in hypertensive stroke trial-2 \(right-2\)](#)

[PP19 A study of the prevalence of impaired awareness of hypoglycaemia in people who have had a severe hypoglycaemic emergency and been attended by the ambulance service](#)

[PP20 Using conversation analysis \(ca\) to explore 999-call recordings: what can micro-analysis of 'talk' reveal about help seeking for low-acuity conditions?](#)

[PP21 Can paramedics correctly recognise cardiac arrhythmias and does recency of training have an impact?](#)

[PP22 Alternative care pathways for patients with low risk tia attended by emergency ambulance: a national survey](#)

[PP23 A comparative evaluation of 999 call-to-needle time of patients presenting with red flag sepsis treated with antibiotics by paramedics and emergency department staff](#)

[PP24 The transient ischaemic attack 999 emergency referral \(tier\) feasibility trial: development of a complex intervention](#)

[PP25 Using a linked health dataset to identify what happens to patients following prehospital care](#)

[PP26 Missed opportunities in ambulance sepsis care?](#)

[PP27 Terms used to describe key symptoms in out-of-hospital cardiac arrest by people calling 999 emergency medical services: a qualitative analysis of call recordings to two uk ambulance services](#)

[PP28 Exploring 'hear and treat' practices in three ambulance service trusts](#)

[PP29 Exploring factors increasing paramedics' likelihood of administering analgesia in pre-hospital pain: cross sectional study \(explain\)](#)

[PP30 Rapid analgesia for prehospital hip disruption \(rapid: feasibility study progress\)](#)

Annals of Emergency Medicine

October 2017 Volume 70, Issue 4

Airway

[Nonphysician Out-of-Hospital Rapid Sequence Intubation Success and Adverse Events: A Systematic Review and Meta-Analysis](#)

[The \(Continued\) Challenges of Out-of-Hospital Rapid Sequence Intubation](#)

Images in Emergency Medicine

[Middle-Aged Male With Right Neck Pain](#)

[Young Woman With Ankle Pain](#)

Airway

[High-Flow Nasal Cannula Versus Conventional Oxygen Therapy in Emergency Department Patients With Cardiogenic Pulmonary Edema: A Randomized Controlled Trial](#)

[The Bougie and First-Pass Success in the Emergency Department](#)

EM:RAP Commentary

[Saved by the Bougie](#)

Airway

[Effectiveness of Apneic Oxygenation During Intubation: A Systematic Review and Meta-Analysis](#)

Geriatrics

[Paramedic Assessment of Older Adults After Falls, Including Community Care Referral Pathway: Cluster Randomized Trial](#)

[Repeated Emergency Medical Services Use by Older Adults: Analysis of a Comprehensive Statewide Database](#)

[Revisit, Subsequent Hospitalization, Recurrent Fall, and Death Within 6 Months After a Fall Among Elderly Emergency Department Patients](#)

Emergency Medical Services

[Association of Out-of-Hospital Hypotension Depth and Duration With Traumatic Brain Injury Mortality](#)

[Hypotension in Traumatic Brain Injury: Describing the Depth of the Problem](#)

[Geographic Variation in Use of Ambulance Transport to the Emergency Department](#)

Infectious Disease

[An Emergency Department Validation of the SEP-3 Sepsis and Septic Shock Definitions and Comparison With 1992 Consensus Definitions](#)

[Potential Impact of the 2016 Consensus Definitions of Sepsis and Septic Shock on Future Sepsis Research](#)

[HIV Prevention and Treatment: The Evolving Role of the Emergency Department](#)

[Does Antipyresis Improve Mortality in Critically Ill Septic Patients?](#)

[Hospitalizations for Endocarditis and Associated Health Care Costs Among Persons With Diagnosed Drug Dependence—North Carolina, 2010-2015](#)

[Commentary](#)

Imaging

[What Is the Utility of Ultrasonography for the Identification of Skin and Soft Tissue Infections in the Emergency Department?](#)

[Can Abdominal Ultrasonography Be Used to Accurately Diagnose Acute Appendicitis?](#)

[Is Bedside Ultrasonography Rapid and Accurate for Confirmation of Central Venous Catheter Position and Exclusion of Pneumothorax Compared With Chest Radiograph?](#)

Change of Shift

[Invisible](#)

[The Aftermath](#)

[You're in the ICU](#)

Annals of Emergency Medicine Journal Club

[X Marks the Spot \(or Does It?\): Ultrasonography-Assisted Site Marking for Lumbar Puncture in Children: Answers to the May 2017 Journal Club Questions](#)

Images in Emergency Medicine

[Woman With Headache and Vertigo](#)

[Elderly Man With Bullous Eruption on the Feet](#)

[Elderly Man in Respiratory Arrest](#)

[Young Girl With Abdominal Pain](#)

[Child With Cough and Fever](#)

Correspondence

[Prognostic Accuracy of Quick Sequential Organ Failure Assessment Among Emergency Department Patients Admitted to an ICU](#)

[In reply:](#)

[Sodium Acetate Infusion for Serum and Urine Alkalinization](#)

[Limited Diagnostic Potential of Diagonal Earlobe Crease](#)

Book and Media Reviews

[On the Move: A Life](#)

[Show and Tell: How Everybody Can Make Extraordinary Presentations](#)

News and Perspective

[Narcan Price Hikes Troubling as Opioid Epidemic Rages On](#)

[Emergency Physician Arrest Raises Questions About Female Genital Mutilation in United States](#)

Global Research Highlights

[Global Research Highlights](#)

Academic Emergency Medicine

September 2017: Volume 24, Issue 9

Issue Information

[Issue Information \(pages 1037–1041\)](#)

Editor's Pick

[The Association of Health Literacy With Preventable Emergency Department Visits: A Cross-sectional Study \(pages 1042–1050\)](#)

Original Contributions

[Using Press Ganey Provider Feedback to Improve Patient Satisfaction: A Pilot Randomized Controlled Trial \(pages 1051–1059\)](#)

[Utilization of a Sobering Center for Acute Alcohol Intoxication \(pages 1060–1071\)](#)

[Accuracy of Computed Tomography Imaging Criteria in the Diagnosis of Adult Open Globe Injuries by Neuroradiology and Ophthalmology \(pages 1072–1079\)](#)

[A Quality Improvement Initiative to Decrease the Rate of Solitary Blood Cultures in the Emergency Department \(pages 1080–1087\)](#)

[Efficacy of Intravenous Cobinamide Versus Hydroxocobalamin or Saline for Treatment of Severe Hydrogen Sulfide Toxicity in a Swine \(*Sus scrofa*\) Model \(pages 1088–1098\)](#)

[Prehospital Advanced Cardiac Life Support for Out-of-hospital Cardiac Arrest: A Cohort Study \(pages 1100–1109\)](#)

[The Economic Value of Hybrid Single-photon Emission Computed Tomography With Computed Tomography Imaging in Pulmonary Embolism Diagnosis \(pages 1110–1123\)](#)

Systematic Reviews And Meta-Analyses (Other Than Evidence-Based Diagnostics)

[Accuracy of Point-of-care Ultrasonography for Diagnosing Acute Appendicitis: A Systematic Review and Meta-analysis \(pages 1124–1136\)](#)

[Why Do People Choose Emergency and Urgent Care Services? A Rapid Review Utilizing a Systematic Literature Search and Narrative Synthesis \(pages 1137–1149\)](#)

Special Contribution

[Global Emergency Medicine: A Review of the Literature From 2016 \(pages 1150–1160\)](#)

Hot Off The Press

[Hot Off the Press: Which Febrile Children With Sickle Cell Disease Need a Chest X-ray? \(pages 1161–1164\)](#)

Brief Report

[Validation of the No Objective Testing Rule and Comparison to the HEART Pathway \(pages 1165–1168\)](#)

Invited Commentary

[Comparing the No Objective Testing Rule to the HEART Pathway \(pages 1169–1170\)](#)

Correspondence

[In Reply: \(pages 1171–1172\)](#)

Reflections

[The Plight of Veterans \(pages 1173–1174\)](#)

Erratum

[Re: SAEM Annual Meeting Abstracts \(page 1175\)](#) This article corrects: [SAEM Annual Meeting Abstracts](#)

European Journal of Emergency Medicine

October 2017 - Volume 24 - Issue 5

Editorial

[Further developments](#)

Review Article

[Diagnosis and treatment of upper airway oedema caused by acute angio-oedema in the emergency department: a French consensus statement](#)

Original Articles

[OBESICA study: relationship between BMI and acute heart failure outcome](#)

[Drug safety at admission to emergency department: an innovative model for PRIOritizing patients for MEdication Reconciliation \(PRIOMER\)](#)

[Prognosis of overt disseminated intravascular coagulation in patients admitted to a medical emergency department](#)

[Anticoagulation therapy among patients presenting to the emergency department with symptomatic atrial fibrillation – the FinFib2 study](#)

[Large arterial occlusive strokes as a medical emergency: need to accurately predict clot location](#)

[Patient physiological status during emergency care and rapid response team or cardiac arrest team activation during early hospital admission](#)

[Hospital preparedness and response in CBRN emergencies: TIER assessment tool](#)

[TIER competency-based training course for the first receivers of CBRN casualties: a European perspective](#)

[Usefulness of a multiplying factor in predicting the final number of victims during a mass casualty incident](#)

[Disaster preparedness and response improvement: comparison of the 2010 Haiti earthquake-related diagnoses with baseline medical data](#)

Erratum

[Interactive videoconferencing versus audio telephone calls for dispatcher-assisted cardiopulmonary resuscitation using the ALERT algorithm: A randomized trial: Erratum](#)

UpToDate[®]

OpenAthens login required. Register here: <https://openathens.nice.org.uk/>

[Assessment and emergency management of the acutely agitated or violent adult](#)

Literature review current through: Sep 2017. | **This topic last updated:** Oct 02, 2017.

[Approach to the adult with vaginal bleeding in the emergency department](#)

Literature review current through: Sep 2017. | **This topic last updated:** Sep 19, 2017.

[Evaluation of the adult with abdominal pain in the emergency department](#)

Literature review current through: Sep 2017. | **This topic last updated:** Sep 29, 2016..

[Evaluation of the adult with chest pain in the emergency department](#)

Literature review current through: Sep 2017. | **This topic last updated:** Aug 09, 2016.

[Overview of eye injuries in the emergency department](#)

Literature review current through: Sep 2017. | **This topic last updated:** Aug 25, 2017.



[Delayed antibiotic prescriptions for respiratory infections](#)

Online Publication Date: September 2017

NICE National Institute for
Health and Care Excellence

[Emergency department: weekly bulletins for 2017](#)

Source: [Public Health England](#) - Source: [GOV UK](#) - 05 October 2017

[Violence towards emergency nurses: A narrative review of theories and frameworks](#)

Source: [PubMed](#) - 16 September 2017 - Publisher: International Emergency Nursing [Read Summary](#)

[Impact of Discharge Anticoagulation Education by EmergencyDepartment Pharmacists at a Tertiary Academic Medical Center](#)

Source: [Medicines Management Collection](#) - 20 September 2017 - Publisher: The Journal Of Emergency Medicine [Read Summary](#)

[The Impact of Teach-Back Method on Retention of Key Domains of Emergency Department Discharge Instructions](#)

Source: [Medicines Management Collection](#) - 19 September 2017 - Publisher: The Journal Of Emergency Medicine [Read Summary](#)

[Opioid Abuse And Poisoning: Trends In Inpatient And EmergencyDepartment Discharges](#)

Source: [Medicines Management Collection](#) - 01 October 2017 - Publisher: Health Affairs (project Hope) [Read Summary](#)

 [Poisoning or overdose](#)

Source: [Clinical Knowledge Summaries](#) - 27 September 2017

[Emergency flow improvement tool launched](#)

Source: [NHS Improvement](#) - 11 September 2017 - Publisher: NHS Improvement [Read Summary](#)

[Chief Inspector of Hospitals writes to England's NHS Trusts to highlight good practice from successful emergency care departments](#)

Source: [Care Quality Commission - CQC](#) - 29 September 2017 - Publisher: Care Quality Commission [Read Summary](#)

Recent Database Articles

If you require full articles please email: library@uhbristol.nhs.uk

Further Evaluation of Factors That May Predict Biphasic Reactions in Emergency Department Anaphylaxis Patients.

Author(s): Lee, Sangil; Peterson, Alexa; Lohse, Christine M; Hess, Erik P; Campbell, Ronna L

Source: The journal of allergy and clinical immunology. In practice; 2017; vol. 5 (no. 5); p. 1295-1301

Publication Type(s): Journal Article

Available at [The journal of allergy and clinical immunology. In practice](#) - from ProQuest (Hospital Premium Collection) - NHS Version

Abstract:BACKGROUND Anaphylaxis is a systemic allergic reaction that is commonly treated in the emergency department (ED). The risk of a biphasic reaction is the rationale for observation. OBJECTIVE To derive a prediction rule to stratify ED anaphylaxis patients at risk of a biphasic reaction. METHODS We conducted an observational study of a cohort of patients presenting to an academic ED with signs and symptoms of anaphylaxis. We collected clinical data on biphasic reactions meeting National Institutes of Allergy and Infectious Disease/Food Allergy and Anaphylaxis Network diagnostic criteria. Logistic regression analyses were conducted to identify predictors of biphasic reactions, and odds ratios (ORs) with 95% CIs are reported. The predictive ability of the model features is summarized using the area under a receiver operating characteristics curve, or AUC. Internally validated AUCs were obtained using bootstrap resampling. RESULTS We identified 872 anaphylaxis-related visits. Thirty-six (4.1%) visits resulted in biphasic reactions. Multivariable analysis showed that prior anaphylaxis (OR, 2.74; 95% CI, 1.33-5.63), unknown inciting trigger (OR, 2.40; 95% CI, 1.14-4.99), and first epinephrine administration more than 60 minutes after symptom onset (OR, 2.29; 95% CI, 1.09-4.79) were statistically significantly associated with biphasic reactions. The AUC of this model was 0.70 (95% CI, 0.61-0.79), with an internally validated AUC of 0.67 (95% CI, 0.59-0.76). The P value from the goodness-of-fit test was .91. CONCLUSIONS Our study demonstrated a 4.1% rate of biphasic reactions and found that prior anaphylaxis, unknown inciting trigger, and delayed epinephrine use were risk factors for biphasic reactions.

Effectiveness assessment of a guideline based protocol for ventilatory support management of COPD exacerbations in an emergency department.

Author(s): Plachi, Franciele; Vieira, Fernando Nataniel; Berton, Danilo Cortozi; Knorst, Marli;

Source: Brazilian journal of physical therapy; 2017; vol. 21 (no. 5); p. 357-364

Publication Type(s): Journal Article

Available at [Brazilian journal of physical therapy](#) - from EBSCO (MEDLINE Complete)

Abstract:OBJECTIVE To investigate clinical outcomes according to ventilatory support indication in subjects with chronic obstructive pulmonary disease exacerbation in a "real-life" Emergency Department and to analyze potential predictors of successful noninvasive positive pressure ventilation. METHODS Retrospective cohort performed over an 18-month period, comparing the following patient groups with chronic obstructive pulmonary disease exacerbation: Group A composed of patients initially selected to receive noninvasive positive pressure ventilation without the subsequent need for invasive mechanical ventilation (successful-noninvasive positive pressure ventilation); Group B composed of patients transitioning from noninvasive positive pressure ventilation to invasive mechanical ventilation (failed-noninvasive positive pressure ventilation); and Group C composed of patients who presented with immediate need for invasive mechanical ventilation (without prior noninvasive positive pressure ventilation). RESULTS 117 consecutive chronic obstructive pulmonary disease exacerbation admissions (Group A=96; Group B=13; Group C=8) of candidates for ventilatory support were reviewed. No differences in baseline disease severity and physiological parameters were found between the groups at Emergency Department admission. Nevertheless, Group B had higher intensive care unit admission, length of hospital stay, length of intensive care unit stay, and higher in-hospital mortality compared to Group A. Group C also had worse outcomes when compared to Group A. The only independent variable associated with the successful use of noninvasive positive pressure ventilation were improvement in arterial carbon dioxide pressure after 1h of noninvasive positive pressure ventilation use and its tolerance. CONCLUSION Our data confirmed in a "real life" Emergency Department cohort that successful management of chronic obstructive pulmonary disease exacerbation with noninvasive positive pressure ventilation showed lower in-hospital mortality and Intensive Care Unit stay when compared to patients transitioning from noninvasive positive pressure ventilation to invasive mechanical ventilation or patients who presented an immediate need for invasive mechanical ventilation. noninvasive positive pressure ventilation tolerance and higher arterial carbon dioxide pressure reduction after 1-h of noninvasive positive pressure ventilation were predictors of successful treatment. These results should be confirmed in a prospective randomized controlled trial.

The relationship between ocular trauma and substance abuse in emergency department patients

Author(s): Chang S.L.; Patel V.; Giltner J.; Lee R.; Marco C.A.

Source: American Journal of Emergency Medicine; 2017

Publication Type(s): Article In Press

Abstract:Introduction: Eye injury is the second most common cause of visual impairment and a leading cause of monocular blindness in the United States. There are approximately 6 million ED visits related to drug use annually, including misuse or abuse of pharmaceuticals and illicit drug use. The purpose of this study was to assess the relationship between ocular trauma and substance abuse among emergency department patients and to assess that relationship with demographic factors, including age and gender. Methods: This study was a retrospective, observational study conducted at Miami Valley Hospital, an urban hospital ED, in Dayton, Ohio. Eligible participants included consecutive ocular trauma patients identified by the Trauma Registry from January 2014 through January 2016. Data were collected from the ED medical record including demographic

information, mechanism of injury, visual acuity, slit lamp exam findings, ED procedures, inpatient procedures, toxicology results, ED diagnosis, ED disposition, and eye exam. Results: Among 229 patients, the mean age was 44 (range 14-93). 73% of patients were male. Most patients were White (74%), followed by African American (21%), Hispanic (2%), and other (3%). Most patients arrived by ambulance (62%), followed by helicopter (30%), and walk-ins (18%). Most patients were admitted to the hospital (79%). Mechanisms of injury included motor vehicle accidents (31%) and cases of assault (28%). Most ocular trauma involved the external eye (44%), the anterior chamber (28%), the orbit (25%) and the globe (22%). The incidence of substance abuse in this patient population was high. Of the patients tested for alcohol (N = 143), 49% tested positive. Among 98 patients who received a urine toxicologic screen, 63% tested positive for at least one illicit substance, including opiates (39%), cocaine (12%), benzodiazepines (25%), and/or THC (27%). There was no significant association between substance abuse and ED disposition. Conclusion: Mechanisms of eye injury included primarily motor vehicle accidents and assault. Most ocular trauma involved the external eye, the anterior chamber, the orbit, and the globe. The incidence of alcohol and illicit substance abuse is high among ED patients with ocular trauma. Copyright © 2017.

Low Accuracy of Positive qSOFA Criteria for Predicting 28-Day Mortality in Critically Ill Septic Patients During the Early Period After Emergency Department Presentation

Author(s): Hwang S.Y.; Jo I.J.; Lee S.U.; Lee T.R.; Yoon H.; Cha W.C.; Sim M.S.; Shin T.G.

Source: Annals of Emergency Medicine; 2017

Publication Type(s): Article In Press

Abstract: Study objective: We determine the diagnostic performance of positive Quick Sequential Organ Failure Assessment (qSOFA) scores for predicting 28-day mortality among critically ill septic patients during the early period after emergency department (ED) presentation. Methods: This was a retrospective cohort study at a tertiary care academic center. We reviewed a registry of adult (>=18 years) patients who received a diagnosis of severe sepsis or septic shock during an ED stay from August 2008 through September 2014. We identified the point at which patients met 2 or more of the 3 qSOFA criteria (indicating a positive qSOFA score) simultaneously during the initial 24 hours. The diagnostic performance of positive qSOFA score for predicting 28-day mortality was assessed (on ED arrival and within 3, 6, and 24 hours after ED presentation). Results: A total of 1,395 patients were included, and the overall 28-day mortality was 15%. For patients with positive qSOFA score, 28-day mortality was 23% (95% confidence interval [CI] 19% to 28%) on ED arrival, 20% (95% CI 17% to 23%) at 3 hours, 20% (95% CI 17% to 22%) at 6 hours, and 17% (95% CI 15% to 20%) at 24 hours. Positive qSOFA score for predicting 28-day mortality had a sensitivity, specificity, and area under the receiver operating curve, respectively, of 39% (95% CI 32% to 46%), 77% (95% CI 75% to 80%), and 0.58 (95% CI 0.55 to 0.62) on ED arrival; 68% (95% CI 62% to 75%), 52% (95% CI 49% to 55%), and 0.60 (95% CI 0.57 to 0.63) within 3 hours; 82% (95% CI 76% to 87%), 41% (95% CI 38% to 44%), and 0.61 (95% CI 0.58 to 0.64) within 6 hours; and 91% (95% CI 86% to 94%), 23% (95% CI 21% to 25%), and 0.57 (95% CI 0.54 to 0.59) within 24 hours. Conclusion: The diagnostic performance of positive qSOFA score for predicting 28-day mortality was low in critically ill septic patients, particularly during the early period after ED presentation. The study requires further prospective validation because of limitations with its retrospective design and use of single-center data. Copyright © 2017 American College of Emergency Physicians.

Blood product transfusion in emergency department patients: a case-control study of practice patterns and impact on outcome.

Author(s): Beyer, Alexander; Rees, Ryan; Palmer, Christopher; Wessman, Brian T; Fuller, Brian M

Source: International journal of emergency medicine; Dec 2017; vol. 10 (no. 1); p. 5

Publication Type(s): Journal Article

Available at [International journal of emergency medicine](#) - from Europe PubMed Central - Open Access

Abstract:BACKGROUND Blood product transfusion occurs in a significant percentage of intensive care unit (ICU) patients. Pulmonary complications, such as acute respiratory distress syndrome (ARDS), occurring in the setting of transfusion, are associated with increased morbidity and mortality. Contrary to the ICU setting, there is little evidence describing the epidemiology of transfusion in the emergency department (ED) or its potential impact on outcome. The objectives of this study were to: (1) characterize transfusion practices in the ED with respect to patient characteristics and pre-transfusion laboratory values; and (2) investigate the effect of ED blood product transfusion on the incidence of pulmonary complications after admission. We hypothesized that blood product transfusion would increase the event rate for pulmonary complications, and have a negative impact on other clinically significant outcomes. METHODSThis was a retrospective case-control study with one-one matching of 204 transfused ED patients to 204 non-transfused controls. The primary outcome was a composite pulmonary outcome that included: acute respiratory failure, new need for ICU admission, and ARDS. Multivariable logistic regression was used to evaluate the primary outcome as a function of transfusion. RESULTS One-hundred twenty four (60.8%) patients were transfused packed red blood cells (PRBC) in the ED. The mean pre-transfusion hemoglobin level was 8.5 g/dl. There were 73 patients with a hemoglobin value ≥ 10 g/dl; 19 (26.0%) received a PRBC transfusion. A total of 54 (26.5%) patients were transfused platelets. The main indications were thrombocytopenia (27.8%) and neurologic injury (24.1%). Ten patients had a platelet level $< 10,000$ (guideline recommended threshold for transfusion to prevent spontaneous hemorrhage). The mean platelet count for neurologic injury patients was 197,000 prior to transfusion. The primary outcome occurred in 26 control patients (12.7%), as compared with 28 cases (13.7%). In multivariable logistic regression analysis, ED transfusion was not associated with an increased odds of primary outcome [adjusted OR 0.91 (0.48-1.72), $P = 0.77$]. The mortality rate was 10.8% in the cases and 8.8% in the controls, $P = 0.51$. CONCLUSIONSA significant percentage of ED blood product transfusions are discordant with guideline recommendations. However, there was no association with ED transfusion and worse clinical outcome.

The effectiveness of rapid sequence intubation (RSI) versus non-RSI in emergency department: an analysis of multicenter prospective observational study.

Author(s): Okubo, Masashi; Gibo, Koichiro; Hagiwara, Yusuke; Nakayama, Yukiko; Hasegawa, Kohei; Japanese Emergency Medicine Network Investigators

Source: International journal of emergency medicine; Dec 2017; vol. 10 (no. 1); p. 1

Publication Type(s): Journal Article

Available at [International journal of emergency medicine](#) - from Europe PubMed Central - Open Access

Abstract:BACKGROUND Although rapid sequence intubation (RSI) is the method of choice in emergency department (ED) airway management, data to support the use of RSI remain scarce. We sought to compare the effectiveness of airway management between RSI and non-RSI (intubation with sedative agents only or without medications) in the ED. METHODS Secondary analysis of the data from a multicenter prospective observational registry at 13 Japanese EDs. All non-cardiac-arrest patients who underwent intubation with RSI or non-RSI were included for the analysis. Outcomes of interest were the success rate of intubation and intubation-related complications. RESULTS Of 2365 eligible patients, 761 (32%) underwent intubations with RSI and 1,604 (68%) with non-RSI. Intubations with RSI had a higher success rate on the first attempt compared to those with non-RSI (73 vs. 63%; $P < 0.0001$). By contrast, the complication rates did not differ significantly between RSI and non-RSI groups (12 vs. 13%; $P = 0.59$). After adjusting for age, sex, estimated weight, principal

indication, device, specialties and training level of the intubator, and clustering of patients within EDs, intubation with RSI was associated with a significantly higher success rate on the first attempt (OR, 2.3; 95% CI, 1.8-2.9; $P < 0.0001$) while that with RSI was not associated with the risk of complications (OR, 0.9; 95% CI, 0.6-1.2; $P = 0.31$). **CONCLUSIONS** In this large multicenter study of ED airway management, we found that intubation with RSI was independently associated with a higher success rate on the first attempt but not with the risk of complications.

Cost-effectiveness of emergency department-initiated treatment for opioid dependence.

Author(s): Busch, Susan H.; Fiellin, David A.; Chawarski, Marek C.; Owens, Patricia H.

Source: *Addiction*; Nov 2017; vol. 112 (no. 11); p. 2002-2010

Publication Type(s): Academic Journal

Abstract: **Background and Aims** In a recent randomized trial, patients with opioid dependence receiving brief intervention, emergency department (ED)-initiated buprenorphine and ongoing follow-up in primary care with buprenorphine (buprenorphine) were twice as likely to be engaged in addiction treatment compared with referral to community-based treatment (referral) or brief intervention and referral (brief intervention). Our aim was to evaluate the relative cost-effectiveness of these three methods of intervening on opioid dependence in the ED. **Design** Measured health-care use was converted to dollar values. We considered a health-care system perspective and constructed cost-effectiveness acceptability curves that indicate the probability each treatment is cost-effective under different thresholds of willingness-to-pay for outcomes studied. **Setting** An urban ED in the United States. **Participants** Opioid-dependent patients aged 18 years or older. **Measurements** Self-reported 30-day assessment data were used to construct cost-effectiveness acceptability curves for patient engagement in formal addiction treatment at 30 days and the number of days illicit opioid-free in the past week. **Findings** Considering only health-care system costs, cost-effectiveness acceptability curves indicate that at all positive willingness-to-pay values, ED-initiated buprenorphine treatment was more cost-effective than brief intervention or referral. For example, at a willingness-to-pay threshold of \$1000 for 30-day treatment engagement, we are 79% certain ED-initiated buprenorphine is most cost-effective compared with other studied treatments. Similar results were found for days illicit opioid-free in the past week. Results were robust to secondary analyses that included patients with missing cost data, included crime and patient time costs in the numerator, and to changes in unit price estimates. **Conclusion** In the United States, emergency department-initiated buprenorphine intervention for patients with opioid dependence provides high value compared with referral to community-based treatment or combined brief intervention and referral.

22 Apneic Oxygenation Via Conventional Nasal Cannula to Prevent Oxygen Desaturation During Rapid Sequence Intubation in the Emergency Department and Intensive Care Unit: A Systematic Review and Meta-Analysis.

Author(s): West, J.R.; Williams, A.B.

Source: *Annals of Emergency Medicine*; Oct 2017; vol. 70

Publication Type(s): Academic Journal

45 Effectiveness of Modified HEART Score Versus Emergency Department Assessment of Chest Pain Score Accelerated Diagnostic Protocol for Low Risk Chest Pain: A Prospective Observational Study.

Author(s): Tambe, N.; Shah, S.; Rathi, S.; Mehta, S.

Source: *Annals of Emergency Medicine*; Oct 2017; vol. 70

Publication Type(s): Academic Journal

135 Interface Design Dividing Physical Findings Into Medical and Trauma Findings Facilitates Clinical Document Entry in the Emergency Department: A Prospective Observational Study.

Author(s): Inokuchi, R.; Maehara, H.; Iwai, S.; Yamaguchi, Y.; Asada, T.; Doi, K.; Morimura, N.

Source: Annals of Emergency Medicine; Oct 2017; vol. 70

Publication Type(s): Academic Journal

208 Low-Dose Intravenous Ketamine for Acute Migraine in the Emergency Department: A Randomized Placebo-Controlled Trial.

Author(s): Etchison, A.; Manfredi, L.; Mohammed, M.; Phan, V.; McAllister, K.B.; Ray, M.; Heitz, C.

Source: Annals of Emergency Medicine; Oct 2017; vol. 70

Publication Type(s): Academic Journal

234 Safety and Efficacy of Intravenous Lidocaine for Pain Management in the Emergency Department: A Systematic Review and Meta-Analysis.

Author(s): e Silva, L.O.J.; Scherber, K.; Cabrera, D.; Motov, S.; West, C.P.; Murad, M.H.; Bellolio, M.F.

Source: Annals of Emergency Medicine; Oct 2017; vol. 70

Publication Type(s): Academic Journal

236EMF Adjunctive Nitrous Oxide to Lidocaine Anesthesia During Emergency Department Incision and Drainage of Abscess in Adults: A Randomized Controlled Trial.

Author(s): Herres, J.

Source: Annals of Emergency Medicine; Oct 2017; vol. 70

Publication Type(s): Academic Journal

275 An Observational Study to Determine the Feasibility and Compliance Rates for Patients Turning in an Emergency Department for Pressure Ulcer Prevention.

Author(s): Calhoun, A.; March, J.; McManus, J.

Source: Annals of Emergency Medicine; Oct 2017; vol. 70

Publication Type(s): Academic Journal

304 The Effect of Emergency Department Crowding on Mechanical Ventilation Practice Patterns: An Observational Study.

Author(s): Kim, J.L.; Loo, G.; Ranginwala, S.; Mathews, K.S.; Owyang, C.

Source: Annals of Emergency Medicine; Oct 2017; vol. 70

Publication Type(s): Academic Journal

Randomized clinical trial of propofol versus alfentanil for moderate procedural sedation in the emergency department.

Author(s): Miner, James R.; Driver, Brian E.; Moore, Johanna C.; Faegerstrom, Erik; Klein, Lauren

Source: American Journal of Emergency Medicine; Oct 2017; vol. 35 (no. 10); p. 1451-1456

Publication Type(s): Academic Journal

Abstract:Study Objective: To compare the frequency of airway and respiratory adverse events leading to an intervention between moderate sedation using alfentanil or propofol. Methods: We performed a randomized clinical trial in which adults undergoing moderate sedation in the ED received either alfentanil or propofol. Our primary outcome was the frequency of airway and respiratory adverse events leading to an intervention. Other outcomes included sedation depth, efficacy, sedation time, patient satisfaction, pain, and satisfaction. Results: 108 subjects completed the trial: 52 receiving alfentanil and 56 receiving propofol. Airway or respiratory adverse events leading to an intervention were similar between the two groups: 23% for alfentanil and 20% for propofol ($p=0.657$). There were no serious adverse events in any group. Secondary outcomes were notably different in the rate of reported pain (48% for alfentanil, 13% for propofol) and recall (75% for alfentanil, 23% for propofol) and similar in the rate of satisfaction with the procedure (87% for alfentanil, 84% for propofol). Conclusion: We found a similar frequency of airway and respiratory adverse events leading to intervention between alfentanil and propofol used for moderate procedural sedation. Both agents appear safe for moderate procedural sedation.

Emergency department septic shock patient mortality with refractory hypotension vs hyperlactatemia: A retrospective cohort study.

Author(s): April, Michael D.; Tannenbaum, Lloyd I.; Moore, Tyler; Aguirre, Jose; Pingree, Alexander

Source: American Journal of Emergency Medicine; Oct 2017; vol. 35 (no. 10); p. 1474-1479

Publication Type(s): Academic Journal

Abstract:Background: Our objective was to compare in-hospital mortality among emergency department (ED) patients meeting trial-based criteria for septic shock based upon whether presenting with refractory hypotension (systolic blood pressure <90 mmHg after 1L intravenous fluid bolus) versus hyperlactatemia (initial lactate ≥ 4 mmol/L). Methods: We conducted a retrospective cohort analysis by chart review of ED patients admitted to an intensive care unit with suspected infection during 1 August 2012-28 February 2015. We included all patients with body fluid cultures sampled either during their ED stay without antibiotic administration or within 24h of antibiotic administration in the ED. We excluded patients not meeting criteria for either refractory hypotension or hyperlactatemia. Trained chart abstractors blinded to the study hypothesis double entered data from each patient's record including demographics, clinical data, treatments, and in-hospital mortality. We compared in-hospital mortality among patients with isolated refractory hypotension, isolated hyperlactatemia, or both. We also calculated odds ratios (ORs) via logistic regression for in-hospital mortality based on presence of refractory hypotension or hyperlactatemia. Results: Of 202 patients included in the analysis, 38 (18.8%) died during hospitalization. Mortality was 10.9% among 101 patients with isolated refractory hypotension, 24.4% among 41 patients with isolated hyperlactatemia, and 28.3% among 60 patients with both ($p=0.01$). Logistic regression analyses yielded in-hospital mortality OR for refractory hypotension of 1.3 (95% CI 0.5-3.8) versus OR for hyperlactatemia of 2.9 (95% CI 1.2-7.4). Conclusions: Hyperlactatemia appears associated with higher in-hospital mortality compared to refractory hypotension among ED patients with septic shock.

Apneic oxygenation during intubation in the emergency department and during retrieval: A systematic review and meta-analysis.

Author(s): Binks, Matthew J.; Melhuish, Thomas M.; White, Leigh D.; Vlok, Ruan; Holyoak, Rhys S.

Source: American Journal of Emergency Medicine; Oct 2017; vol. 35 (no. 10); p. 1542-1546

Publication Type(s): Academic Journal

Abstract:Background: Hypoxemia increases the risk of intubation markedly. Such concerns are multiplied in the emergency department (ED) and during retrieval where patients may be unstable, preparation or preoxygenation time limited and the environment uncontrolled. Apneic oxygenation is a promising means of preventing hypoxemia in this setting.Aim: To test the hypothesis that apnoeic oxygenation reduces the incidence of hypoxemia during endotracheal intubation in the ED and during retrieval.Methods: We undertook a systematic review of six databases for all relevant studies published up to November 2016. Included studies evaluated apneic oxygenation during intubation in the ED and during retrieval. There were no exemptions based on study design. All studies were assessed for level of evidence and risk of bias. The Review Manager 5.3 software was used to perform meta-analysis of the pooled data.Results: Six trials and a total 1822 cases were included for analysis. The study found a significant reduction in the incidence of desaturation (RR=0.76, p=0.002) and critical desaturation (RR=0.51, p=0.01) when apneic oxygenation was implemented. There was also a significant improvement in first pass intubation success rate (RR=1.09, p=0.004).Conclusion: Apneic oxygenation may reduce patient hypoxemia during intubation performed in the ED and during retrieval. It also improves intubation first-pass success rate in this setting.

High-Flow Nasal Cannula Versus Conventional Oxygen Therapy in Emergency Department Patients With Cardiogenic Pulmonary Edema: A Randomized Controlled Trial.

Author(s): Makdee, Onlak; Monsomboon, Apichaya; Surabenjawong, Usapan;

Source: Annals of Emergency Medicine; Oct 2017; vol. 70 (no. 4); p. 465-465

Publication Type(s): Academic Journal

Abstract:Study Objective: High-flow nasal cannula is a new method for delivering high-flow supplemental oxygen for victims of respiratory failure. This randomized controlled trial compares high-flow nasal cannula with conventional oxygen therapy in emergency department (ED) patients with cardiogenic pulmonary edema.Methods: We conducted an open-label randomized controlled trial in the ED of Siriraj Hospital, Bangkok, Thailand. Patients aged 18 years or older with cardiogenic pulmonary edema were randomly assigned to receive either conventional oxygen therapy or high-flow nasal cannula. The primary outcome was the respiratory rate 60 minutes postintervention.Results: We enrolled 128 participants (65 in the conventional oxygen therapy and 63 in the high-flow nasal cannula groups). Baseline high-flow nasal cannula and conventional oxygen therapy mean respiratory rates were 28.7 breaths/min (SD 3.2) and 28.6 breaths/min (SD 3.5). Mean respiratory rates at 60 minutes postintervention were lower in the high-flow nasal cannula group (21.8 versus 25.1 breaths/min; difference 3.3; 95% confidence interval 1.9 to 4.6). No significant differences were found in the admission rate, ED and hospital lengths of stay, noninvasive ventilation, intubation, or mortality.Conclusion: In patients with cardiogenic pulmonary edema in the ED, high-flow nasal cannula therapy may decrease the severity of dyspnea during the first hour of treatment.

Magnitude of workplace violence in emergency department: another brick in the wall.

Author(s): Ramacciati, Nicola; Ceccagnoli, Andrea; Addey, Beniamino; Rasero, Laura

Source: Emergency Medicine Australasia; Oct 2017; vol. 29 (no. 5); p. 599-600

Publication Type(s): Academic Journal

Abstract:The article focuses on workplace violence related incidence in the emergency department of the hospital. Topics discussed include the paper Review article: Workplace violence in the emergency department: a systematic review and meta analysis published in Emergency Medicine Australasia, the Italian National Survey 2016 Violence towards Emergency Nurses and alcohol-related violence.

The impact of pregnancy on headache evaluation in the emergency department, a retrospective cohort study.

Author(s): Waldman, Ian; Wagner, Stephen; Posadas, Kristine; Deimling, Timothy

Source: Emergency Radiology; Oct 2017; vol. 24 (no. 5); p. 505-508

Publication Type(s): Academic Journal

Abstract:Background: Headache is one of the most common emergency department complaints with three million visits annually in the USA. This is further complicated with 30% of those emergency visits being for a hypertensive disorder of pregnancy. There is no currently well-established guideline for diagnostic imaging with a common concern being ionizing radiation exposure in pregnancy. The purpose of this study was to assess the difference in imaging studies ordered for pregnant and non-pregnant patients who reported to a tertiary care emergency department with headache.Objective: The purpose of this study was to assess the difference in imaging studies ordered for pregnant and non-pregnant patients who reported to a tertiary care emergency department with headache.Study Design: This retrospective cohort study identified all reproductive age female patients who presented to the emergency department with a chief complaint of "headache." They were then divided into cohorts based on pregnancy status. Rates and types of imaging studies utilized in patient evaluation were then compared.Results: Two thousand seven hundred ninety patients met our criteria for evaluation; 95 were found to be pregnant. Head CTs were ordered significantly less and MRIs were ordered significantly more in the pregnant cohort as compared to the non-pregnant cohort with a P value of <0.0001 and an odds ratio of 4.21 and a P value of 0.0127 and an odds ratio of 0.49, respectively.Conclusion: Our data shows a difference in evaluation for pregnant patients as compared to their non-pregnant cohort. CT should not be considered contraindicated in the pregnant population and the amount of ionizing radiation to the fetus is well within the maximum safe dose, particularly with appropriate shielding. The time difference, cost, fetal exposure risk, and availability of CT compared to MRI should be taken into account when establishing a criterion for diagnostic evaluation. This difference validates the need for further research into a well-established guideline for the emergent evaluation of headache in the ED without special bias placed on pregnancy status.

of Emergency Department Management of Opioid-Tolerant Cancer Patients With Acute Pain.

Author(s): Patel, Pina M.; Goodman, Lauren F.; Knepel, Sheri A.; Miller, Charles C.; Azimi, Asma

Source: Journal of Pain & Symptom Management; Oct 2017; vol. 54 (no. 4); p. 501-507

Publication Type(s): Academic Journal

Abstract:Context: There are no previously published studies examining opioid doses administered to opioid-tolerant cancer patients during emergency department (ED) encounters.Objectives: To determine if opioid-tolerant cancer patients presenting with acute pain exacerbations receive adequate initial doses of as needed (PRN) opioids during ED encounters based on home oral morphine equivalent (OME) use.Methods: We performed a retrospective cohort study of opioid-tolerant cancer patients who received opioids in our ED over a two-year period. The percentage of patients who received an adequate initial dose of PRN opioid (defined as $\geq 10\%$ of total 24-hour ambulatory OME) was evaluated. Logistic regression was used to establish the relationship between 24-hour ambulatory OME and initial ED OME to assess whether higher home usage was associated with higher likelihood of being undertreated.Results: Out of 216 patients, 61.1% of patients received an adequate initial PRN dose of opioids in the ED. Of patients taking 400 OMEs per day at home received an adequate dose. Patients with ambulatory 24-hour OME greater than 400 had 99% lower odds of receiving an adequate initial dose of PRN opioid in the ED compared to patients with ambulatory 24-hour OME less than 100 (OR <0.01, CI 0.00-0.02, P < 0.001).Conclusions: Patients with daily home use less than 200 OMEs generally received adequate initial PRN opioid doses during their

ED visit. However, patients with higher home opioid usage were at increased likelihood of being undertreated.

A Longitudinal Study of Ambulatory Physician Encounters, Emergency Room Visits, and Hospitalizations by Patients with Rheumatoid Arthritis: A 13-year Population Health Study.

Author(s): Hanly, John G.; Thompson, Kara; Skedgel, Chris

Source: Journal of Rheumatology; Oct 2017; vol. 44 (no. 10); p. 1421-1428

Publication Type(s): Academic Journal

Abstract:Objective: To determine total physician encounters, emergency room (ER) visits, and hospitalizations in an incident cohort of rheumatoid arthritis (RA) cases and matched control patients over 13 years.Methods: A retrospective cohort study was performed using administrative healthcare data from about 1 million people with access to universal healthcare. Using the International Classification of Diseases, 9th ed (ICD-9) and ICD-10 diagnostic codes, 7 RA case definitions were used. Each case was matched by age and sex to 4 randomly selected controls. Data included physician billings, ER visits, and hospital discharges over 13 years.Results: The number of incident RA cases varied from 3497 to 27,694, depending on the case definition. The mean age varied from 54.3 to 65.0 years, and the proportion of women from 67.8% to 71.3%. The number of physician encounters by patients with RA was significantly higher than by controls. It was highest in the index year and declined promptly thereafter for all case definitions and by 12.2%-46.8% after 10 years. Encounters with subspecialty physicians fell by 61% (rheumatologists) and 34% (internal medicine). In contrast, clinical encounters with family physicians and other physicians fell by only 9%. Visits to the ER and hospital admissions were also significantly higher in RA cases, particularly early in the disease, and fell significantly over the followup.Conclusion: In patients with RA, healthcare use is highest in the first year following the diagnosis, which is also the time of maximal involvement by rheumatologists. Use declines over time, and encounters with patients' family physicians predominate over other physician groups.

Improving admission medication reconciliation with pharmacists or pharmacy technicians in the emergency department: a randomised controlled trial.

Author(s): Pevnick, Joshua M; Nguyen, Caroline; Jackevicius, Cynthia A; Palmer, Katherine A

Source: BMJ quality & safety; Oct 2017

Publication Type(s): Journal Article

Available at [BMJ quality & safety](#) - from BMJ Journals - NHS

Abstract:BACKGROUNDAdmission medication history (AMH) errors frequently cause medication order errors and patient harm.OBJECTIVETo quantify AMH error reduction achieved when pharmacy staff obtain AMHs before admission medication orders (AMO) are placed.METHODSThis was a three-arm randomised controlled trial of 306 inpatients. In one intervention arm, pharmacists, and in the second intervention arm, pharmacy technicians, obtained initial AMHs prior to admission. They obtained and reconciled medication information from multiple sources. All arms, including the control arm, received usual AMH care, which included variation in several common processes. The primary outcome was severity-weighted mean AMH error score. To detect AMH errors, all patients received reference standard AMHs, which were compared with intervention and control group AMHs. AMH errors and resultant AMO errors were independently identified and rated by ≥ 2 investigators as significant, serious or life threatening. Each error was assigned 1, 4 or 9 points, respectively, to calculate severity-weighted AMH and AMO error scores for each patient.RESULTSPatient characteristics were similar across arms (mean \pm SD age 72 \pm 16 years, number of medications 15 \pm 7). Analysis was limited to 278 patients (91%) with reference standard AMHs. Mean \pm SD AMH errors per patient in the usual care, pharmacist and technician arms were 8.0 \pm 5.6,

1.4±1.9 and 1.5±2.1, respectively ($p<0.0001$). Mean±SD severity-weighted AMH error scores were 23.0±16.1, 4.1±6.8 and 4.1±7.0 per patient, respectively ($p<0.0001$). These AMH errors led to a mean±SD of 3.2±2.9, 0.6±1.1 and 0.6±1.1 AMO errors per patient, and mean severity-weighted AMO error scores of 6.9±7.2, 1.5±2.9 and 1.2±2.5 per patient, respectively (both $p<0.0001$). **CONCLUSIONS** Pharmacists and technicians reduced AMH errors and resultant AMO errors by over 80%. Future research should examine other sites and patient-centred outcomes. **TRIAL REGISTRATION NUMBER** NCT02026453.

High-sensitivity C reactive protein as a predictor of in-hospital mortality in patients with cardiovascular disease at an emergency department: a retrospective cohort study.

Author(s): Yoshinaga, Ryo; Doi, Yasufumi; Ayukawa, Katsuhiko; Ishikawa, Shizukiyo

Source: BMJ open; Oct 2017; vol. 7 (no. 10); p. e015112

Publication Type(s): Journal Article

Available at [BMJ open](#) - from HighWire - Free Full Text **Abstract:** **OBJECTIVE** We investigated whether serum high-sensitivity C reactive protein (hs-CRP) levels measured in an emergency department (ED) are associated with in-hospital mortality in patients with cardiovascular disease (CVD). **DESIGN** A retrospective cohort study. **SETTING** ED of a teaching hospital in Japan. **PARTICIPANTS** 12 211 patients with CVD aged ≥ 18 years who presented to the ED by an ambulance between 1 February 2006 and 30 September 2014 were evaluated. **MAIN OUTCOME MEASURES** In-hospital mortality. **RESULTS** 1156 patients had died. The in-hospital mortality increased significantly with the hs-CRP levels (<3.0 mg/L: 7.0%, 95% CI 6.4 to 7.6; 3.1-5.4 mg/L: 9.6%, 95% CI 7.9 to 11.3; 5.5-11.5 mg/L: 11.2%, 95% CI 9.4 to 13.0; 11.6-33.2 mg/L: 12.3%, 95% CI 10.5 to 14.1 and ≥ 33.3 mg/L: 19.9%, 95% CI 17.6 to 22.2). The age-adjusted and sex-adjusted HR for total mortality was increased significantly in the three ≥ 5.5 mg/L groups compared with the <3.0 mg/L group (5.5-11.5 mg/L: HR=1.32, 95% CI 1.09 to 1.60, $p=0.005$; 11.6-33.2 mg/L: HR=1.38, 95% CI 1.14 to 1.65, $p=0.001$ and ≥ 33.3 mg/L: HR=2.15, 95% CI 1.84 to 2.51, $p<0.001$). Similar findings were observed for the CVD subtypes of acute myocardial infarction, heart failure, cerebral infarction and intracerebral haemorrhage. This association remained unchanged even after adjustment for age, sex and white cell count and withstood Bonferroni adjustment for multiple testing. When the causes of death were divided into primary CVD and non-CVD deaths, the association between initial hs-CRP levels and mortality remained significant, but the influence of hs-CRP levels was greater in non-CVD deaths than CVD deaths. The percentage of non-CVD deaths increased with hs-CRP levels; among the patients with hs-CRP levels ≥ 33.3 mg/L, non-CVD deaths accounted for 37.5% of total deaths. **CONCLUSION** Our findings suggest that increased hs-CRP is a significant risk factor for in-hospital mortality among patients with CVD in an ED. Particular attention should be given to our finding that non-CVD death is a major cause of death among patients with CVD with higher hs-CRP levels.

Use of Prophylactic Ondansetron with Intravenous Opioids in Emergency Department Patients: A Prospective Observational Pilot Study.

Author(s): Culver, Mark A; Richards, Emily C; Jarrell, Daniel H; Edwards, Christopher J

Source: The Journal of emergency medicine; Oct 2017

Publication Type(s): Journal Article

Abstract: **BACKGROUND** The current literature suggests that the prophylactic use of antiemetics is ineffective at preventing nausea or vomiting caused by opioids in the emergency department (ED). While there is no data evaluating ondansetron's efficacy for preventing opioid-induced nausea and vomiting, this practice remains common despite a lack of supporting evidence. **OBJECTIVE** This study aimed to identify if prophylactic ondansetron administered with intravenous (IV) opioids prevents opioid-induced nausea or vomiting. **METHODS** This prospective observational study was conducted in

the ED at two academic medical institutions. Patients were eligible for enrollment if they were prescribed an IV opioid with or without IV ondansetron and absence of baseline nausea. Patients' level of nausea was evaluated at baseline, 5 min, and 30 min after an IV opioid was administered and then observed for 2 hours. RESULTS One hundred thirty-three patients were enrolled, with 90% of patients presenting with a chief complaint of pain. Sixty-four (48.1%) patients received an IV opioid alone and 69 (51.9%) patients received both IV ondansetron and an IV opioid. Twenty-three (17.3%) patients developed nausea caused by opioid administration. One (0.75%) patient had an emetic event and 3 (2.3%) patients required rescue antiemetics during their observation period. Rate of nausea was similar between treatment groups 5 min after the opioid was administered ($p = 0.153$). There was no statistical difference in emesis, rescue medication requirements, or nausea severity between treatment groups. CONCLUSION Our trial found that ondansetron did not appear to be effective at preventing opioid-induced nausea or vomiting. These findings and previous literature suggest prophylactic ondansetron should not be given to ED patients who are receiving IV opioids.

Emergency Department-Initiated Tobacco Control: Update of a Systematic Review and Meta-Analysis of Randomized Controlled Trials.

Author(s): Lemhoefer, Christina; Rabe, Gwen Lisa; Wellmann, Jürgen; Bernstein, Steven L

Source: Preventing chronic disease; Oct 2017; vol. 14 ; p. E89

Publication Type(s): Journal Article

Available at [Preventing chronic disease](#) - from Europe PubMed Central - Open Access

Abstract: INTRODUCTION A 2012 systematic review and meta-analysis of randomized controlled trials on emergency department-initiated tobacco control (ETC) showed only short-term efficacy. The aim of this study was to update data through May 2015. METHODS After registering the study protocol on the international prospective register of systematic reviews (PROSPERO) in May 2015, we searched 7 databases and the gray literature. Our outcome of interest was the point prevalence of tobacco-use abstinence at 1-month, 3-month, 6-month, or 12-month follow-up. We calculated the relative risk (RR) of tobacco-use abstinence after ETC at each follow-up time separately for each study and then pooled Mantel-Haenszel RRs by follow-up time. These results were pooled with results of the 7 studies included in the previous review. We calculated the effect of ETC on the combined point prevalence of tobacco-use abstinence across all follow-up times by using generalized linear mixed models. RESULTS We retrieved 4 additional studies, one published as an abstract, comprising 1,392 participants overall. The 1-month follow-up point prevalence of tobacco-use abstinence after ETC resulted in an RR of 1.49 (95% confidence interval [CI], 1.08-2.05) across 3 studies; 3-month follow-up, an RR of 1.38 (95% CI, 1.12-1.71) across 9 studies; 6-month follow-up, an RR of 1.09 (95% CI, 0.84-1.41) across 6 studies; and 12-month follow-up, an RR of 1.26 (95% CI, 1.00-1.59) across 3 studies. The effect on the combined point prevalence of abstinence was an RR of 1.40 (95% CI, 1.06-1.86) ($P = .02$). CONCLUSION ETC is effective in promoting continual tobacco-use abstinence up to 12 months after intervention. ETC may be a critically important public health strategy for engaging hard-to-reach smokers in tobacco-use cessation.

Screening of the frail patient in the emergency department: A systematic review.

Author(s): Jørgensen, Rasmus; Brabrand, Mikkel

Source: European journal of internal medicine; Oct 2017

Publication Type(s): Journal Article

Abstract: BACKGROUND Several frailty rating scales have been developed to detect and screen for the level of frailty. It is uncertain what diagnostic value screening of frailty level have in the emergency department. AIM To assess the accuracy of the screening tools used in the emergency department to detect frailty in patients ≥ 65 years by their ability to identify the risk of adverse

outcomes.**METHODS**An extensive medical literature search of Embase and PubMed was conducted, to identify studies using frailty screening scales in the emergency department. Data was subsequently extracted and evaluated from the results of the included studies.**RESULTS**Four studies met the exact inclusion criteria. Four different frailty screening scales: Clinical Frailty Scale, Deficit Accumulation Index, Identification of Seniors At Risk and The Study of Osteoporotic Fracture frailty index used in the emergency department were described and compared. Predictive values for various outcomes are represented and discussed.**CONCLUSION**The results suggest that frailty successfully predicts increased risk of hospitalization, nursing home admission, mortality and prolonged length of stay after an initial emergency department visit. Frailty does however not predict increased risk of 30day emergency department revisit. Further research highlighting the value of screening for frailty level in elderly emergency department patients is needed.**LEARNING POINTS**Although frail elders in need of further geriatric assessment should be identified as soon as possible, this systematic review only identified four cohort studies of frailty assessment in emergency departments. Although frailty screening appeared to predict the risk of mortality and of admission to hospital/nursing home, these four studies did not show that it could predict return visits to emergency departments within 30days. Randomized clinical trials of frailty screening tools compared to usual care or other methods of assessment are clearly needed.

Predicting 30-Day Mortality for Patients With Acute Heart Failure in the Emergency Department: A Cohort Study.

Author(s): Miró, Òscar; Rossello, Xavier; Gil, Víctor; Martín-Sánchez, Francisco Javier; Llorens, Pere

Publication Type(s): Journal Article

Available at [Annals of internal medicine](#) - from EBSCO (MEDLINE Complete)

Abstract:BackgroundPhysicians in the emergency department (ED) need additional tools to stratify patients with acute heart failure (AHF) according to risk.ObjectiveTo predict mortality using data that are readily available at ED admission.DesignProspective cohort study.Setting34 Spanish EDs.ParticipantsThe derivation cohort included 4867 consecutive ED patients admitted during 2009 to 2011. The validation cohort comprised 3229 patients admitted in 2014.MeasurementsEighty-eight candidate risk factors and 30-day mortality.ResultsThirteen independent risk factors were identified in the derivation cohort and were combined into an overall score, the MEESSI-AHF (Multiple Estimation of risk based on the Emergency department Spanish Score In patients with AHF) score. This score predicted 30-day mortality with excellent discrimination (c-statistic, 0.836) and calibration (Hosmer-Lemeshow P = 0.99) and provided a steep gradient in 30-day mortality across risk groups (<2% for patients in the 2 lowest risk quintiles and 45% in the highest risk decile). These characteristics were confirmed in the validation cohort (c-statistic, 0.828). Multiple sensitivity analyses did not find important amounts of confounding or bias.LimitationsThe study was confined to a single country. Participating EDs were not selected randomly. Many patients had missing data. Measurement of some risk factors was subjective.ConclusionThis tool has excellent discrimination and calibration and was validated in a different cohort from the one that was used to develop it. Physicians can consider using this tool to inform clinical decisions as further studies are done to determine whether the tool enhances physician decision making and improves patient outcomes.Primary Funding SourceInstituto de Salud Carlos III, Spanish Ministry of Health; Fundació La Marató de TV3; and Catalonia Govern.

A Prospective Evaluation of Transverse Tracheal Sonography During Emergent Intubation by Emergency Medicine Resident Physicians.

Author(s): Lahham, Shadi; Baydoun, Jamie; Bailey, James; Sandoval, Sandra; Wilson, Sean P;

Source: Journal of ultrasound in medicine : official journal of the American Institute of Ultrasound in Medicine; Oct 2017; vol. 36 (no. 10); p. 2079-2085

Publication Type(s): Journal Article

Abstract:OBJECTIVESEstablishing a definitive airway is often the first step in emergency department treatment of critically ill patients. Currently, there is no agreed upon consensus as to the most efficacious method of airway confirmation. Our objective was to determine the diagnostic accuracy of real-time sonography performed by resident physicians to confirm placement of the endotracheal tube during emergent intubation.METHODSWe performed a prospective cohort study of adult patients in the emergency department undergoing emergent endotracheal intubation. Thirty emergency medicine residents, who were blinded to end-tidal carbon dioxide detection results, performed real-time transverse tracheal sonography during intubation to evaluate correct endotracheal tube placement.RESULTSSeventy-two patients were enrolled in the study. Sixty-eight instances (94.4%) were interpreted as correct placement in the trachea; 4 (5.6%) were interpreted as esophageal, of which 1 was a false-negative finding, therefore conferring sensitivity of 98.5% (95% confidence interval, 92.1%-99.9%) and specificity of 75.0% (95% confidence interval, 19.4%-99.4%) for correct placement. There was no significant difference in accuracy among resident sonographers with different levels of residency training.CONCLUSIONSA simple transverse tracheal sonographic examination performed by emergency medicine resident physicians can be used as an adjunct to help confirm correct endotracheal tube placement during intubation. In our cohort, the level of training did not appear to affect the ability of residents to correctly identify the endotracheal tube position.

The role of patient perception of crowding in the determination of real-time patient satisfaction at Emergency Department.

Author(s): Wang, Hao; Kline, Jeffrey A; Jackson, Bradford E; Robinson, Richard D; Sullivan, Matthew

Source: International journal for quality in health care : journal of the International Society for Quality in Health Care; Oct 2017; vol. 29 (no. 5); p. 722-727

Publication Type(s): Journal Article

Abstract:ObjectiveTo evaluate the associations between real-time overall patient satisfaction and Emergency Department (ED) crowding as determined by patient percepton and crowding estimation tool score in a high-volume ED.DesignA prospective observational study.SettingA tertiary acute hospital ED and a Level 1 trauma center.ParticipantsED patients.Intervention(s)Crowding status was measured by two crowding tools [National Emergency Department Overcrowding Scale (NEDOCS) and Severely overcrowded-Overcrowded-Not overcrowded Estimation Tool (SONET)] and patient perception of crowding surveys administered at discharge.Main outcome measure(s)ED crowding and patient real-time satisfaction.ResultsFrom 29 November 2015 through 11 January 2016, we enrolled 1345 participants. We observed considerable agreement between the NEDOCS and SONET assessment of ED crowding (bias = 0.22; 95% limits of agreement (LOAs): -1.67, 2.12). However, agreement was more variable between patient perceptions of ED crowding with NEDOCS (bias = 0.62; 95% LOA: -5.85, 7.09) and SONET (bias = 0.40; 95% LOA: -5.81, 6.61). Compared to not overcrowded, there were overall inverse associations between ED overcrowding and patient satisfaction (Patient perception OR = 0.49, 95% confidence limit (CL): 0.38, 0.63; NEDOCS OR = 0.78, 95% CL: 0.65, 0.95; SONET OR = 0.82, 95% CL: 0.69, 0.98).ConclusionsWhile heterogeneity exists in the degree of agreement between objective and patient perceived assessments of ED crowding, in our study we observed that higher degrees of ED crowding at admission might be associated with lower real-time patient satisfaction.

A systematic review of cardiovascular emergency department visits, hospital admissions and mortality associated with ambient black carbon.

Author(s): Luben, Thomas J; Nichols, Jennifer L; Dutton, Steven J; Kिरrane, Ellen; Owens, Elizabeth O

Publication Date: Oct 2017

Publication Type(s): Journal Article Review

Abstract:BACKGROUND Black carbon (BC) is a ubiquitous component of particulate matter (PM) emitted from combustion-related sources and is associated with a number of health outcomes. OBJECTIVES We conducted a systematic review to evaluate the potential for cardiovascular morbidity and mortality following exposure to ambient BC, or the related component elemental carbon (EC), in the context of what is already known about the associations between exposure to fine particulate matter (PM_{2.5}) and cardiovascular health outcomes. DATA SOURCES We conducted a stepwise systematic literature search of the PubMed database and employed Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines for reporting our results. STUDY ELIGIBILITY CRITERIA Studies meeting inclusion criteria (i.e., include a quantitative measurement of BC or EC used to characterize exposure and an effect estimate of the association of the exposure metric with ED visits, hospital admissions, or mortality due to cardiovascular disease) were evaluated for risk of bias in study design and results. STUDY APPRAISAL AND SYNTHESIS METHODS Risk of bias evaluations assess some aspects of internal validity of study findings based on study design, conduct, and reporting and identify potential issues related to confounding or other biases. RESULTS The results of our systematic review demonstrate similar results for BC or EC and PM_{2.5}; that is, a generally modest, positive association of each pollutant measurement with cardiovascular emergency department visits, hospital admissions, and mortality. There is no clear evidence that health risks are greater for either BC or EC when compared to one another, or when either is compared to PM_{2.5}. LIMITATIONS We were unable to adequately evaluate the role of copollutant confounding or differential spatial heterogeneity for BC or EC compared to PM_{2.5}. CONCLUSIONS AND IMPLICATIONS OF KEY FINDINGS Overall, the evidence at present indicates that BC or EC is consistently associated with cardiovascular morbidity and mortality but is not sufficient to conclude that BC or EC is independently associated with these effects rather than being an indicator for PM_{2.5} mass. SYSTEMATIC REVIEW REGISTRATION NUMBER Not available.

Association of magnetic resonance imaging for back pain on seven-day return visit to the Emergency Department.

Author(s): Aaronson, Emily L; Yun, Brian J; Mort, Elizabeth; Brown, David; Raja, Ali

Source: Emergency medicine journal : EMJ; Oct 2017; vol. 34 (no. 10); p. 677-679

Publication Type(s): Journal Article

Available at [Emergency medicine journal : EMJ](#) - from BMJ Journals - NHS

Abstract:BACKGROUND The prevalence of back pain is rising, as is the use of high-cost imaging in the ED. The objective of our study was to determine if an MRI in the ED for patients with back pain resulted in a lower incidence of ED return visit and to determine if these patients had longer ED length of stay (LOS) and use of ED observation. METHODS A retrospective cohort study of consecutive patients seen with back pain was conducted at an urban, university-affiliated ED between 1 January 2012 and 11 July 2014. The association of MRI on return within 7 days was assessed using a χ^2 test and a multivariable logistic regression model and the difference in median ED LOS was compared using a Wilcoxon rank-sum test. RESULTS During the study period, 6094 patients were evaluated in the ED with back pain as the primary diagnosis. Of these, 797 (13%) received an MRI. Among all patients with back pain, 277 (4.5%) returned within 7 days. Univariate analysis found that patients who received an MRI were no less likely to return within 7 days than patients who did not (4.3% vs 4.6%; $p=0.68$). Patients who had an MRI were more likely to be admitted to observation (74.2% vs

10.8%; $p < 0.0001$) and had a longer ED LOS (median 4.8 hours vs 2.7; $p < 0.0001$). Multivariable regression confirmed that MRI did not decrease the rate of a 7-day return visit (OR=0.98; 95% CI 0.68 to 1.42). **CONCLUSIONS** In patients with uncomplicated back pain, performing an MRI will not mitigate their likelihood of return; however, it leads to a longer ED LOS and more ED observation admissions.

Development of a trigger tool for identifying emergency department visits in patients with lung cancer

Author(s): Vogel J.; Gabriel P.E.; Berman A.T.; Evans T.L.; Braun J.; Hanish A.; Draugelis M.; Regli S.

Source: International Journal of Radiation Oncology Biology Physics; Oct 2017; vol. 99 (no. 2)

Publication Type(s): Conference Abstract

Available at [International journal of radiation oncology, biology, physics](#) - from ScienceDirect

Abstract: Purpose/Objective(s): Lung cancer is a major cause of morbidity and mortality in the United States, as well as cost. During their treatment over half of lung cancer patients visit the emergency department (ED), which may contribute to increased cost of lung cancer care and decreased quality of life. In this study, we evaluate characteristics of lung cancer patients presenting to an ED at a tertiary care referral center. We develop a model for ED visits (LungConnect) and generate real-time alerts for high risk patients. Purpose/Objective(s): All lung cancer patients with an outpatient encounter with a primary diagnosis of lung cancer between July 2013 and July 2016 were included on an institutional-review board approved retrospective cohort study. Patients were randomly separated into a training and validation dataset. Clinical features were selected based on relevance and data availability. Predictions for ED visits were made within 14 days of a clinical encounter. Random forest plot modeling was used to generate an area under the receiver operative characteristic curve (AUROC). Parsimonious regression was used to obtain odds ratios (OR) for the most relevant predictors in the model. Results: Patients were a median of 68 years old and 54% were female. The most common presenting symptoms were pain and difficulty breathing. Two thousand five hundred patients were included in the training dataset and 450 in the validation dataset. One hundred five clinical features were evaluated. An AUC of 0.79 was seen in the training set and 0.77 in the validation set. The largest ORs for ED visit were a diagnosis of fluid and electrolyte disorder (1.44; 95% CI = 1.41-1.47) and outpatient clinical visits in radiology (1.35; 95% CI = 1.32-1.39) and radiation oncology (1.34; 95% CI = 1.31-1.38). An average of 220 patient queries was made each weekday. Using a threshold value of 0.12, 25 positive alerts are obtained daily and 33% of ED visits overall are predicted. Conclusion: ED visits occur frequently in patients with lung cancer and may contribute to decreased quality of life and increased treatment cost. We have successfully designed a continuous predictive model (LungConnect) that can be utilized in real-time to identify patients at a high risk of ED visit. An intervention using this model may allow the outpatient team to prevent ED visits in high risk lung cancer patients.

Categorical Risk Perception Drives Variability in Antibiotic Prescribing in the Emergency Department: A Mixed Methods Observational Study

Author(s): Klein E.Y.; Saheed M.; Martinez E.M.; May L.; Reyna V.; Broniatowski D.A.

Source: Journal of General Internal Medicine; Oct 2017; vol. 32 (no. 10); p. 1083-1089

Publication Type(s): Article

Abstract: Background: Adherence to evidence-based antibiotic therapy guidelines for treatment of upper respiratory tract infections (URIs) varies widely among clinicians. Understanding this variability is key for reducing inappropriate prescribing. Objective: To measure how emergency department (ED) clinicians' perceptions of antibiotic prescribing risks affect their decision-making. Design: Clinician survey based on fuzzy-trace theory, a theory of medical decision-making, combined with

retrospective data on prescribing outcomes for URI/pneumonia visits in two EDs. The survey predicts the categorical meanings, or gists, that individuals derive from given information. Participants: ED physicians, residents, and physician assistants (PAs) who completed surveys and treated patients with URI/pneumonia diagnoses between August 2014 and December 2015. Main Measures: Gists derived from survey responses and their association with rates of antibiotic prescribing per visit. Key Results: Of 4474 URI/pneumonia visits, 2874 (64.2%) had an antibiotic prescription. However, prescribing rates varied from 7% to 91% for the 69 clinicians surveyed (65.2% response rate). Clinicians who framed therapy-prescribing decisions as a categorical choice between continued illness and possibly beneficial treatment ("why not take a risk?" gist, which assumes antibiotic therapy is essentially harmless) had higher rates of prescribing (OR 1.28 [95% CI, 1.06-1.54]). Greater agreement with the "antibiotics may be harmful" gist was associated with lower prescribing rates (OR 0.81 [95% CI, 0.67-0.98]). Conclusions: Our results indicate that clinicians who perceive prescribing as a categorical choice between patients remaining ill or possibly improving from therapy are more likely to prescribe antibiotics. However, this strategy assumes that antibiotics are essentially harmless. Clinicians who framed decision-making as a choice between potential harms from therapy and continued patient illness (e.g., increased appreciation of potential harms) had lower prescribing rates. These results suggest that interventions to reduce inappropriate prescribing should emphasize the non-negligible possibility of serious side effects. Copyright © 2017, Society of General Internal Medicine.

Capsule Commentary on Klein et al., Categorical Risk Perception Drives Variability in Antibiotic Prescribing in the Emergency Department: a Mixed Methods Observational Study

Author(s): Linder J.A.

Source: Journal of General Internal Medicine; Oct 2017; vol. 32 (no. 10); p. 1130

Publication Type(s): Article

Comparative Effectiveness of Patient-Controlled Analgesia for Treating Acute Pain in the Emergency Department

Author(s): Bijur P.E.; Chang A.K.; White D.; Restivo A.; Persaud S.; Gallagher E.J.; Birnbaum A.J.

Source: Annals of Emergency Medicine; Oct 2017

Publication Type(s): Article In Press

Abstract: Study objective: We assess the effectiveness of patient-controlled analgesia in the emergency department (ED). We hypothesized that decline in pain intensity from 30 to 120 minutes after initial intravenous opioid administration is greater in patients receiving morphine by patient-controlled analgesia compared with usual care and would differ by a clinically significant amount. Method: This was a pragmatic randomized controlled trial of patient-controlled analgesia and usual care (opioid and dose at physician's discretion) in 4 EDs. Entry criteria included age 18 to 65 years and acute pain requiring intravenous opioids. The primary outcome was decline in numeric rating scale pain score 30 to 120 minutes postbaseline. Secondary outcomes included satisfaction, time to analgesia, adverse events, and patient-controlled analgesia pump-related problems. We used a mixed-effects linear model to compare rate of decline in pain (slope) between groups. A clinically significant difference between groups was defined as a difference in slopes equivalent to 1.3 numeric rating scale units. Results: Six hundred thirty-six patients were enrolled. The rate of decline in pain from 30 to 120 minutes was greater for patients receiving patient-controlled analgesia than usual care (difference=1.0 numeric rating scale unit; 95% confidence interval [CI] 0.6 to 1.5; PCopyright © 2017 American College of Emergency Physicians.

Push-Alert Notification of Troponin Results to Physician Smartphones Reduces the Time to Discharge Emergency Department Patients: A Randomized Controlled Trial.

Author(s): Verma, Aikta; Wang, Angela S.; Feldman, Michael J.; Hefferon, Darren A.; Kiss, Alex

Source: Annals of Emergency Medicine; Sep 2017; vol. 70 (no. 3); p. 348-356

Publication Type(s): Academic Journal

Abstract: Study Objective: For emergency department (ED) patients with chest pain, discharge decisions often hinge on troponin results. Push-alert notifications deliver results immediately to physician smartphones. Our objective is to determine whether troponin push alerts improve the time to discharge decisions for ED patients with chest pain. Methods: In an academic ED, we assessed the effect of a quality improvement initiative using troponin push alerts to physician smartphones, with a cluster-randomized evaluation. Participating physicians were randomized to receive troponin push alerts (intervention) or not receive them (control). We retrospectively identified patients treated by participating physicians during the study period who were discharged from the ED with chest pain. The primary outcome was the time from final troponin result to discharge decision. Secondary outcomes included length of stay. A linear mixed model was used to adjust for physician clustering. Results: During the study, 1,554 patients were discharged from the ED with chest pain. There were 551 patients in the control group and 554 in the intervention group who met inclusion criteria. The overall median interval from final troponin result to discharge decision was 79.7 minutes (interquartile range [IQR] 33.6 to 167.8 minutes); it was 94.3 minutes (IQR 36.2 to 177.8 minutes) in the control group and 68.5 minutes (IQR 30.5 to 157.2 minutes) in the intervention group. This 25.8-minute difference in medians (95% confidence interval 24.6 to 28.0 minutes) was statistically significant. Total ED length of stay was 345 minutes (IQR 261 to 419 minutes) in the control group and 328 minutes (IQR 250 to 408 minutes) in the intervention group. Conclusion: Physicians who received troponin push alerts discharged their patients with chest pain 26 minutes faster than those without troponin notifications. Total ED length of stay did not significantly improve for these patients.

A Systematic Review of Antimicrobial Stewardship Interventions in the Emergency Department.

Author(s): Losier, Mia; Ramsey, Tasha D.; Wilby, Kyle John; Black, Emily K.

Source: Annals of Pharmacotherapy; Sep 2017; vol. 51 (no. 9); p. 774-790

Publication Type(s): Academic Journal

Abstract: Background/objective: To improve antimicrobial utilization, development and implementation of antimicrobial stewardship programs in the emergency department (ED) has been recommended. The primary objective of this review was to characterize antimicrobial stewardship (AMS) in the ED and to identify interventions that improve patient outcomes or process of care and/or reduce consequences of antimicrobial use. Methods: This study was completed as a systematic review. The following databases were searched from inception through November, 2016: MEDLINE, EMBASE, Cumulative Index to Nursing and Allied Health Literature, Scopus, and Web of Science. Randomized controlled trials, nonrandomized controlled trials, controlled and uncontrolled before-and-after studies, interrupted time series studies, and repeated-measures studies evaluating AMS interventions in the ED were included in the review. Studies published in languages other than English were excluded. Results: A total of 43 studies meeting inclusion criteria were identified from our search. Patient or provider education and guideline or clinical pathway implementation were the most commonly reported interventions. Few studies reported on audit and feedback, and no study evaluated preauthorization. Impact of interventions showed variable results. Where identified, benefits of AMS interventions primarily included improvement in delivery of care or a decrease in antimicrobial utilization; however, most studies were rated as having unclear or high risk of bias. Conclusion: AMS interventions in the ED may improve patient care. However, the optimal combination of interventions is unclear. Additional studies with more rigorous design evaluating core components of AMS programs, including prospective audit and feedback are needed.

The role of marijuana use disorder in predicting emergency department and inpatient encounters: A retrospective cohort study.

Author(s): Campbell, Cynthia I.; Bahorik, Amber L.; Kline-Simon, Andrea H.; Satre, Derek D.

Source: Drug & Alcohol Dependence; Sep 2017; vol. 178 ; p. 170-175

Publication Type(s): Academic Journal

Abstract:Background: Marijuana use disorder (MUD) is the most common illegal drug use disorder and its prevalence is increasing. It is associated with psychiatric and medical problems, but little is known about its impact on emergency department (ED) and inpatient utilization rates.Design: In a retrospective cohort design, we used electronic health record (EHR) data to identify patients with MUD (n=2752) and demographically matched patients without MUD (n=2752) in 2010. Logistic regressions determined risk of ED and inpatient visits each year from 2010 to 2014 for MUD patients versus controls; mixed-effect growth models examined differences in utilization rates over 5-years. Patient characteristics predicting increased risk of utilization were examined among the MUD sample only.Key Results: Rates of ED (OR=0.87, p<0.001) and inpatient (OR=0.76, p<0.001) services use significantly declined over 5 years for all patients. Patients with MUD exhibited a significantly greater decline in ED (OR=0.81, p<0.001) and inpatient (OR=0.64, p<0.001) use relative to controls. However, MUD patients had significantly greater risk of having ED and inpatient visits at each time point (p's<0.001). MUD patients with co-occurring other substance use, medical, and/or psychiatric disorders had a greater risk of having ED or inpatient encounters over 5 years (p's<0.001).Conclusions: MUD patients remain at high risk for ED and inpatient visits despite decreasing utilization rates over 5 years. Addressing MUD patients' comorbid conditions in outpatient settings may help reduce inappropriate service use.

Effectiveness of collaboration between emergency department and intensive care unit teams on mortality rates of patients presenting with critical illness: a systematic review.

Author(s): McDowald, Kerchelle; Direktor, Svetlana; Hynes, Elizabeth A.; Sahadeo, Anna;

Source: JBI Database of Systematic Reviews & Implementation Reports; Sep 2017; vol. 15 (no. 9); p. 2365-2389

Publication Type(s): Academic Journal

Abstract:Background The increasing volume of adult patients with critical illness entering emergency departments (EDs) burdens the resources of EDs worldwide. This subpopulation faces a high risk of mortality because they require specialized care which many EDs are not yet poised to deliver. An element crucial to delivering care and decreasing the mortality of critically ill patients in the ED is expert collaborative practice across disciplines. Several ED and intensive care unit (ICU) collaborative models exist including: emergency department intensive care units (EDICU) and medical emergency teams (MET). Objectives To evaluate the effectiveness of collaboration between the ED and ICUs on the mortality rates of critically ill adult ED patients. Inclusion criteria Types of participants Adult ED patients, 18 years and over, with non-surgical critical illness meeting the criteria for ICU admission. Types of intervention(s) Collaboration between the ED and ICU in the management of critically ill patients in the ED. Types of studies Observational and descriptive studies. Type of outcome All-cause mortality, including 30-day mortality and in-hospital mortality rates at any time period. Search strategy The comprehensive literature search included published and unpublished studies in English from the beginning of each database through November 30, 2016. Databases searched included: PubMed, CINAHL, Embase and Cochrane Central Register of Controlled Trials (CENTRAL). A search for gray literature and electronic hand searching of relevant journals was also performed. Methodological quality Studies were assessed for methodological quality by four independent reviewers using standardized appraisal tools from the Joanna Briggs Institute (JBI). Data extraction

Data related to the methods, participants, interventions and findings were extracted using a standardized data extraction tool from JBI. Data synthesis Statistical pooling into a meta-analysis was not possible due to the clinical and methodological heterogeneity in the interventions and outcome measures of the included studies. Results are presented in a narrative form. Results Three collaborative models (EDICU, Direct Provider-Provider Collaboration and MET) were identified across five studies. Findings from these studies showed conflicting results. The reviewers were unable to synthesize the evidence to state conclusively the effectiveness of collaborative models on mortality rates of critically ill patients. Conclusions There is limited and conflicting evidence related to the effectiveness of EDICU collaborative models on the mortality rates of critically ill patients preventing the development of practice recommendations. This review underscores the need for more research into the benefits of collaborative models between the ED and ICU.

Mortality in Evacuating Nursing Home Residents...Willoughby, M., Kipsaina, C., Ferrah, N. et al, Mortality in nursing homes following emergency evacuation: A systematic review. J Am Med Dir Assoc. 2017;18:664–670.

Author(s): Pierce, J. Rush; West, Theresa A.

Source: Journal of the American Medical Directors Association; Sep 2017; vol. 18 (no. 9); p. 803-803

Publication Type(s): Academic Journal

Emergency Department Blood Gas Utilization and Changes in Ventilator Settings.

Author(s): Al Ashry, Haitham S; Richards, Jeremy B; Fisher, Daniel F; Sankoff, Jeffrey; Seigel, Todd A

Source: Respiratory care; Sep 2017

Publication Type(s): Journal Article

Abstract:BACKGROUND Mechanically ventilated patients increasingly spend hours in emergency department beds before ICU admission. This study evaluated the performance of blood gases in mechanically ventilated subjects in the emergency department and subsequent changes to mechanical ventilation settings. METHOD This was a multi-center, prospective, observational study of subjects ventilated in the emergency department, conducted at 3 academic emergency departments from July 2011 to March 2013. We measured the rate of arterial blood gas (ABG) and venous blood gas (VBG) analysis, and we assessed the associations between the conditions of hypoxemia, hyperoxia, hypercapnia, or acidemia and changes to mechanical ventilator settings. RESULTS Of 292 ventilated subjects, 17.1% did not have a blood gas sent in the emergency department. Ventilator changes were made significantly more frequently for subjects who had an ABG as the initial blood gas sent in the emergency department (odds ratio 2.70, 95% CI 1.46-4.99, P = .002). However, findings of hypoxemia, hyperoxia, hypercapnia, or acidemia were not correlated with ventilator adjustments. CONCLUSIONS In this prospective observational study of subjects mechanically ventilated in the emergency department, the majority had a blood gas checked while in the emergency department. While ABGs were associated with having changes made to ventilator settings in the emergency department, clinical findings of hypoxemia, hyperoxia, hypercapnia, and acidemia were not. Inattention to blood gas results may lead to missed opportunities in guiding ventilator changes in the emergency department.

The 9-Item Physician Documentation Quality Instrument (PDQI-9) score is not useful in evaluating EMR (scribe) note quality in Emergency Medicine.

Author(s): Walker, Katherine J; Wang, Andrew; Dunlop, William; Rodda, Hamish; Ben-Meir, Michael; Staples, Margaret

Source: Applied clinical informatics; Sep 2017; vol. 8 (no. 3); p. 981-993

Publication Type(s): Journal Article

Abstract:BACKGROUND Scribes are assisting Emergency Physicians by writing their electronic clinical notes at the bedside during consultations. They increase physician productivity and improve their working conditions. The quality of Emergency scribe notes is unevaluated and important to determine. OBJECTIVE The primary objective of the study was to determine if the quality of Emergency Department scribe notes was equivalent to physician only notes, using the Physician Documentation Quality Instrument, Nine-item tool (PDQI-9). METHOD This was a retrospective, observational study comparing 110 scribed to 110 non-scribed Emergency Physician notes written at Cabrini Emergency Department, Australia. Consultations during a randomised controlled trial of scribe/doctor productivity in 2016 were used. Emergency physicians and nurses rated randomly selected, blinded and de-identified notes, 2 raters per note. Comparisons were made between paired scribed and unscribed notes and between raters of each note. Characteristics of individual raters were examined. The ability of the tool to discriminate between good and poor notes was tested. RESULT The PDQI-9 tool has significant issues. Individual items had good internal consistency (Cronbach's alpha=0.93), but there was very poor agreement between raters (Pearson's $r=0.07$, $p=0.270$). There were substantial differences in PDQI-9 scores allocated by each rater, with some giving typically lower scores than others, $F(25,206)=1.93$, $p=0.007$. The tool was unable to distinguish good from poor notes, $F(3,34)=1.15$, $p=0.342$. There was no difference in PDQI-9 score between scribed and non-scribed notes. CONCLUSION The PDQI-9 documentation quality tool did not demonstrate reliability or validity in evaluating Emergency Medicine consultation notes. We found no evidence that scribed notes were of poorer quality than non-scribed notes, however Emergency scribe note quality has not yet been determined.

Do instability markers predict satisfactory reduction and requirement for later surgery in emergency department patients with wrist fracture?

Author(s): Winayak, Amar; Gossat, Alyza; Cooper, Jenny; Ritchie, Peter; Lim, Wei; Klim, Sharon

Source: Emergency medicine Australasia : EMA; Sep 2017

Publication Type(s): Journal Article

Abstract:OBJECTIVE Research suggests that the presence of instability markers in patients with displaced distal radial fractures is associated with poorer outcome. Our aims were to determine whether the presence of previously defined instability markers could predict the likelihood of successful ED reduction and requirement for a secondary procedure after ED reduction. METHODS Retrospective cohort study performed by medical record review. Adult ED patients coded as having an isolated wrist fracture and having fracture reduction in ED were eligible for inclusion. Data collected included demographics, history of osteoporosis, mechanism of injury, radiological features on X-rays and performance of a secondary procedure. Outcomes of interest were the rate of successful fracture reduction in ED (against defined radiological criteria), the rate of secondary procedures and the association between the number of defined instability risk factors and successful reduction and performance of a secondary surgical procedure. Analysis was by χ^2 test, receiver operating characteristic curve, logistic regression analyses. RESULT Three hundred and nineteen patients were studied; median age 62 years, 77% female. Sixty-five per cent of patients had satisfactory fracture reduction in ED (95% CI 59%-70%). Eighty-six patients underwent a secondary procedure to reduce/stabilise their fracture (28%, 95% CI 23%-33%). Younger age, lack of satisfactory ED reduction and increased number of instability factors were independently predictive of the performance of a secondary procedure. CONCLUSION Instability risk factors are common in patients with wrist fractures requiring reduction in ED. The number of instability factors is not a strong predictor of the performance of secondary procedures.

Outcomes of Emergency Department Anaphylaxis Visits from 2005 to 2014.

Author(s): Motosue, Megan S; Bellolio, M Fernanda; Van Houten, Holly K; Shah, Nilay D; Li, James T

Source: The journal of allergy and clinical immunology. In practice; Sep 2017

Publication Type(s): Journal Article

Abstract:BACKGROUND Although the incidence of anaphylaxis appears to be increasing, trends in anaphylaxis-related health care utilization are not well understood. OBJECTIVE To better understand the potential increasing health care burden, we analyzed the changes in anaphylaxis-related health care utilization, including emergency department (ED) discharges, observation stays, inpatient admissions, intensive care unit admissions, and endotracheal intubations. METHODS We conducted an observational study examining outcomes of anaphylaxis-related ED visits between January 1, 2005, and December 31, 2014. We analyzed administrative claims data from OptumLabs Data Warehouse, which includes more than 100 million Medicare Advantage and privately insured enrollees in the United States. We studied trends in the proportions of ED-related anaphylaxis visits based on demographic characteristics, triggers, and ED disposition for our study population. RESULTS Among 56,212 anaphylaxis-related ED visits during a 10-year period, the proportion of patient observation/inpatient admissions increased by 37.6% ($P = .02$), from 13.2% of anaphylaxis-related ED visits in 2005 to 18.2% in 2014. The proportion of patients admitted to the intensive care unit increased by 27.4% ($P = .001$), from 4.5% in 2005 to 5.8% in 2014. Proportions of endotracheal intubation increased by 145.2% ($P < .001$). CONCLUSION The increasing proportions of observation/inpatient admissions, intensive care unit admissions, and endotracheal intubations suggest an increase in anaphylaxis severity. Enhanced awareness of these trends among patients, practitioners, and the community is necessary to create effective strategies to prevent anaphylaxis and decrease associated adverse consequences.

Is the Pelvic Examination Still Crucial in Patients Presenting to the Emergency Department With Vaginal Bleeding or Abdominal Pain When an Intrauterine Pregnancy Is Identified on Ultrasonography? A Randomized Controlled Trial.

Author(s): Linden, Judith A; Grimmnitz, Benjamin; Hagopian, Laura; Breaud, Alan

Source: Annals of emergency medicine; Sep 2017

Publication Type(s): Journal Article

Abstract:STUDY OBJECTIVE We determine whether omitting the pelvic examination in emergency department (ED) evaluation of vaginal bleeding or lower abdominal pain in ultrasonographically confirmed early intrauterine pregnancy is equivalent to performing the examination. METHODS We conducted a prospective, open-label, randomized, equivalence trial in pregnant patients presenting to the ED from February 2011 to November 2015. Patients were randomized to no pelvic examination versus pelvic examination. Inclusion criteria were aged 18 years or older, English speaking, vaginal bleeding or lower abdominal pain, positive β -human chorionic gonadotropin result, and less than 16-week intrauterine pregnancy by ultrasonography. Thirty-day record review and follow-up call assessed for composite morbidity endpoints (unscheduled return, subsequent admission, emergency procedure, transfusion, infection, and alternate source of symptoms). Wilcoxon rank sum tests were used to assess patient satisfaction and throughput times. RESULTS Only 202 (of a planned 720) patients were enrolled, despite extension of the study enrollment period. The composite morbidity outcome was experienced at similar rates in the intervention (no pelvic examination) and control (pelvic examination) groups (19.6% versus 22.0%; difference -2.4%; 90% confidence interval [CI] -11.8% to 7.1%). Patients in the intervention group were less likely to report feeling uncomfortable or very uncomfortable during the visit (11.2% versus 23.7%; difference -12.5; 95% CI -23.0% to -2.0%). CONCLUSION Although there was only a small difference between the percentage of patients experiencing the composite morbidity endpoint in the 2 study groups (2.4%), the resulting 90% CI was too wide to conclude equivalence. This may have been due to insufficient power. Patients assigned to the pelvic examination group reported feeling uncomfortable more frequently.

Blood pressure variability as an indicator of sepsis severity in adult emergency department patients.

Author(s): Nouriel, Jacob E; Millis, Scott R; Ottolini, Jonathon; Wilburn, John M; Sherwin, Robert L

Source: The American journal of emergency medicine; Sep 2017

Publication Type(s): Journal Article

Abstract:STUDY OBJECTIVEQuantify the correlation between blood pressure variability (BPV) and markers of illness severity: serum lactate (LAC) or Sequential Organ Failure Assessment (SOFA) scores.METHODSWe performed a secondary analysis of data from a prospective, observational study evaluating fluid resuscitation on adult, septic, ED patients. Vital signs and fluid infusion volumes were recorded every 15min during the 3h following ED arrival. BPV was assessed via average real variability (ARV): the average of the absolute differences between consecutive BP measurements. ARV was calculated for the time periods before and after 3 fluid infusion milestones: 10-, 20-, and 30-mL/kg total body weight (TBW). Spearman's rho correlation coefficient analysis was utilized. A p-value20mL/kg TBW, and 16 patients received fluid infusion>30mL/kg TBW. Mean initial LAC was 4.0mmol/L (SD 3.2). Mean repeat LAC was 3.1mmol/L (SD 3.2), obtained an average of 6.6h (SD 5.3) later. Mean SOFA score was 7.0 (SD 4.4). BPV correlated with both follow-up LAC ($r=0.564$; $p=0.023$) and SOFA score ($r=0.544$; $p=0.024$) among the cohort that received a fluid infusion>20-mL/kg TBW.CONCLUSIONWith the finding of a positive correlation between BPV and markers of illness severity (LAC and SOFA scores), this pilot study introduces BPV analysis as a real-time, non-invasive tool for continuous sepsis monitoring in the ED.

Accuracy of bedside point of care testing in critical emergency department patients.

Author(s): McIntosh, Braden W; Vasek, Jerina; Taylor, Maria; Le Blanc, Deborah; Thode, Henry C

Source: The American journal of emergency medicine; Sep 2017

Publication Type(s): Journal Article

Abstract:BACKGROUNDPoint-of-care (POC) testing reduces laboratory turn-around having the potential to improve timely diagnosis and management. We compared the accuracy of nurse performed POC and core laboratory testing and determined whether deviations between the two were clinically meaningful.METHODSWe performed a prospective, observational study on a convenience sample of 50 critical care ED patients in whom a POC chemistry and hematocrit was ordered. Blood samples were divided into 2 aliquots; one sample was tested by the treating nurse using a handheld POC device and the other sample was tested in the core laboratory. Paired comparisons of test results were performed using Pearson's correlation coefficients, Lin concordance coefficients, and Bland Altman plots.RESULTSMean patient age was 67, 50% were male, 82% were admitted. Pearson's correlation and Lin concordance coefficients were excellent (0.84-1.00) for all 8 analytes. Mean (95%CI) paired differences between POC and core laboratory measurements were Na⁺ 0.30 (-0.22 to 0.82) mmol/L, K⁺-0.12 (-0.14 to -0.09) mmol/L, Cl⁻ 2.10 (1.41 to 2.78) mmol/L, TCO₂-1.68 (-2.06 to -1.30) mmol/L, glucose 2.46 (1.46 to 3.46) mg/dL, BUN, 1.69 (0.95 to 2.42) mg/dL, creatinine 0.13 (0.08 to 0.17) mg/dL, and hematocrit -0.39 (-0.93 to 0.15) %. In 3 of 400 measurements, the difference between POC and core lab exceeded the maximal clinically acceptable deviation based on physician surveys.CONCLUSIONSBedside POC by ED nurses is reliable and accurate and does not deviate significantly from core laboratory testing by trained technicians.

Impact of ladder-related falls on the emergency department and recommendations for ladder safety.

Author(s): Cabilan, C J; Vallmuur, Kirsten; Eley, Rob; Judge, Chantelle; Cochrane, Sarah

Source: Emergency medicine Australasia : EMA; Sep 2017

Publication Type(s): Journal Article

Abstract:OBJECTIVE To describe the characteristics of patients who presented to the ED from a ladder-related fall and their injuries, highlight the impact of ladder-related falls on the ED, identify contributing factors of ladder falls and draw recommendations to improve ladder safety. METHODSA prospective observational study was conducted in two EDs. Patients' demographics and ED services used were obtained from medical records. A 53-item questionnaire was used to gather information about the type of ladder used, ladder activity, circumstances of the fall, contributing factors and future recommendations. RESULTSA total of 177 patients were recruited for this study. The typical patient was male, over the age of 50 and using a domestic ladder. The ED length of stay was between 30 min and 16 h, and was longer if patients were transferred to the short stay unit. Services most utilised in the ED included diagnostic tests, procedures and referrals to other healthcare teams. Most falls occurred because of ladder movement and slips or misstep. The major contributing factors identified were a combination of user features and flaws in ladder setup. CONCLUSIONS Ladder-related falls carry a considerable burden to the ED. Recommendations include ladder safety interventions that target ladder users most at risk of falls: men, ≥ 50 years old and performing domestic tasks. Safety interventions should emphasise task avoidance, education and training, utilisation of safety equipment and appropriate ladder setup.

Correction: In patients presenting to the emergency department with skin and soft tissue infections what is the diagnostic accuracy of point-of-care ultrasonography for the diagnosis of abscess compared to the current standard of care? A systematic review and meta-analysis.

Author(s):

Source: BMJ open; Sep 2017; vol. 7 (no. 9); p. e013688corr1

Publication Type(s): Letter

Available at [BMJ open](#) - from Europe PubMed Central - Open Access

Does Early and Appropriate Antibiotic Administration Improve Mortality in Emergency Department Patients with Severe Sepsis or Septic Shock?

Author(s): Sherwin, Robert; Winters, Michael E; Vilke, Gary M; Wardi, Gabriel

Source: The Journal of emergency medicine; Sep 2017

Publication Type(s): Journal Article

Abstract:BACKGROUND Severe sepsis and septic shock remain significant public health concerns. Appropriate emergency department management includes early recognition, hemodynamic resuscitation, source control, and prompt antibiotic administration. Current international guidelines strongly recommend administration of early and appropriate antibiotics for patients with severe sepsis and septic shock. Interestingly, a recent Cochrane Review found insufficient evidence to provide a similar recommendation on antibiotic administration. The goal of this literature search was to systematically review the available literature on early and appropriate antimicrobial therapy and provide emergency physicians an evidence-based approach to antibiotic therapy for septic patients. METHODS Four PubMed searches were completed to identify abstracts of relevant interest. We limited studies to those completed in adult humans that were composed in English between 2005 and 2015. Included studies were randomized controlled trials, meta-analyses, prospective trials, and retrospective cohort studies. These studies were identified by a rigorous search methodology. No review articles, case series, or case reports were included. Predefined criteria were used to evaluate the quality and appropriateness of selected articles as part of a structured review. RESULTS A total of 1552 abstracts were evaluated for inclusion. After the review of these studies, 14 were included for formal review. The authors then systematically evaluated each study, which formed the basis for this clinical statement. CONCLUSIONS Patients with severe sepsis and

septic shock should receive early and appropriate antibiotics in the emergency department. Patients with septic shock who received appropriate antimicrobial therapy within 1 h of recognition had the greatest benefit in mortality.

Regarding a recent manuscript by Davis et al.: "Soft tissue oxygen saturation to predict admission from the emergency department: A prospective observational study".

Author(s): Raz, Guy; Akhter, Murtaza

Source: The American journal of emergency medicine; Sep 2017

Publication Type(s): Letter

Randomized pilot trial measuring knowledge acquisition of opioid education in emergency department patients using a novel media platform.

Author(s): Chakravarthy, Bharath; Somasundaram, Shashank; Mogi, Jennifer; Burns, Roshan

Source: Substance abuse; Sep 2017 ; p. 1-5

Publication Type(s): Journal Article

Abstract:BACKGROUNDThe number of active opioid analgesic prescriptions has risen steadily, causing increases in nonmedical opioid use, addiction, and overdose. Insufficient focus on patient discharge instructions has contributed to lack of patient awareness regarding dangers of opioids. This study examines whether an educational Khan Academy-style animation discharge instruction on the dangers and safe usage of opioid analgesics elicits higher knowledge acquisition than current standard of care. Additionally, it measures the feasibility of implementing this video discharge instruction in the emergency department (ED).METHODSFifty-two English-speaking patients aged 18 years or older receiving an opioid prescription were enrolled in this study. Patients were randomized into 2 groups. The standard of care group received verbal instruction and an informational sheet, whereas the video animation group received a 6-minute video on proper usage of opioids in addition to standard of care. Video content was sourced from samhsa.gov and administered within the ED prior to discharge. Both groups received a 26-question test regarding the dangers and safe usage of opioids immediately after education. An unpaired t test compared knowledge acquisition between the 2 groups.RESULTSFifty-four patients were approached, 52 patients enrolled; 27 in the standard group and 25 in the animation group. The standard of care group averaged 65% knowledge acquisition (16.8/26 correct), whereas the animation group averaged 82% acquisition (21.2/26 correct). The video animation significantly increased patient knowledge acquisition about opioid medications' risks and proper usage and disposal ($P = .001$).CONCLUSIONIt can be concluded that medical knowledge acquisition is improved in the video animation group compared with the current standard of care ($P = .001$). It can also be concluded that it is feasible to implement a novel media platform to educate patients receiving opioid analgesics in the ED (96.1%).

Comparison of ketamine/propofol (ketofol) and etomidate/fentanyl (etofen) combinations for procedural sedation and analgesia in the emergency department: An observational study.

Author(s): Sanri, Erkman; Karacabey, Sinan; Akoglu, Haldun; Kaya, Bora; Guneyssel, Ozlem

Source: Turkish journal of emergency medicine; Sep 2017; vol. 17 (no. 3); p. 89-94

Publication Type(s): Journal Article

Available at [Turkish journal of emergency medicine](#) - from Europe PubMed Central - Open Access

Abstract:OBJECTIVESThe primary aim of this study was to report the vital signs, hemodynamic parameters and pain scores of the patients who have received procedural sedation and analgesia (PSA) with either ketofol (combination of ketamine and propofol) or etofen (combination of

etomidate and fentanyl) and compare the proportion of patients with airway or respiratory adverse events (AEs) requiring an intervention and calculate the relative risk of AEs with each combination. **METHODS** This study is a prospective observational study with survey analysis. All patients received procedural sedation and analgesia (PSA) with either ketofol (combination of ketamine and propofol) or etofen (combination of etomidate and fentanyl) were prospectively observed. Vital and hemodynamic parameters and pain scores of the patients were recorded by automated equipment and visual analog scale (VAS) charts. **RESULTS** 112 patients were enrolled, 55 received ketofol and 57 received etofen. All patients with a respiratory AE (n = 27) observed to receive a respiratory intervention. Respiratory AE rate and proportion of patient who required a respiratory intervention were significantly higher with ketofol ($p = 0.0029$). Overall AE rate, and rates of desaturation, emergence reaction were also significantly higher in ketofol group. **CONCLUSION** Etofen is a promising combination for the PSA of adult patients with lower respiratory AE and intervention rates and with better hemodynamic profile.

Emergency Medicine Myths: Computed Tomography of the Head Prior to Lumbar Puncture in Adults with Suspected Bacterial Meningitis - Due Diligence or Antiquated Practice?

Author(s): April, Michael D; Long, Brit; Koyfman, Alex

Source: The Journal of emergency medicine; Sep 2017; vol. 53 (no. 3); p. 313-321

Publication Type(s): Journal Article

Abstract: **BACKGROUND** Various sources purport an association between lumbar puncture and brainstem herniation in patients with intracranial mass effect lesions. Several organizations and texts recommend head computed tomography (CT) prior to lumbar puncture in selected patients. **OBJECTIVE** To review the evidence regarding the utility of obtaining head CT prior to lumbar puncture in adults with suspected bacterial meningitis. **DISCUSSION** Observational studies report a risk of post-lumbar puncture brainstem herniation in the presence of intracranial mass effect (1.5%) that is significantly lower than that reported among all patients with bacterial meningitis (up to 13.3%). It is unclear from existing literature whether identifying patients with intracranial mass effect decreases herniation risk. Up to 80% of patients with bacterial meningitis experiencing herniation have no CT abnormalities, and approximately half of patients with intracranial mass effect not undergoing lumbar puncture herniate. Decision rules to selectively perform CT on only those individuals most likely to have intracranial mass effect lesions have not undergone validation. Despite recommendations for immediate antimicrobial therapy prior to imaging, data indicate an association between pre-lumbar puncture CT and antibiotic delays. Recent data demonstrate shortened door-to-antibiotic times and lower mortality from bacterial meningitis after implementation of new national guidelines, which restricted generally accepted CT indications by removing impaired mental status as imaging criterion. **CONCLUSIONS** Data supporting routine head CT prior to lumbar puncture are limited. Physicians should consider selective CT for those patients at risk for intracranial mass effect lesions based on decision rules or clinical gestalt. Patients undergoing head CT must receive immediate antibiotic therapy.

Early Exclusion of Major Adverse Cardiac Events in Emergency Department Chest Pain Patients: A Prospective Observational Study.

Author(s): Leung, Yuk-Ki; Cheng, Nga-Man; Chan, Cangel Pui-Yee; Lee, Anna; Wong, Jeffrey Ka-Tak

Source: The Journal of emergency medicine; Sep 2017; vol. 53 (no. 3); p. 287-294

Publication Type(s): Journal Article

Abstract: **BACKGROUND** The current evaluation of patients with chest pain presenting to an emergency department (ED) with suspected acute coronary syndrome (ACS) is a lengthy process involving serial measurements of troponin. **OBJECTIVE** We aimed to validate the diagnostic accuracy

of a Thrombolysis in Myocardial Infarction (TIMI) score with single high-sensitive cardiac troponin T (hs-cTnT) for early rule out of 30-day major adverse cardiac events (MACE), and to compare the TIMI score with combinations of heart-type fatty acid binding protein (H-FABP) and a modified HEART (history, electrocardiogram, age, risk factors, troponin) score. **METHODS** We recruited 602 consecutive adult patients with chest pain and suspected ACS in the ED. Each patient had TIMI and HEART scores, and a point-of-care H-FABP test. **RESULTS** MACE occurred in 42 (7.0%) patients within 30 days. A low risk for 30-day MACE was identified by a modified TIMI score of 0 in 65 (11%) patients, and by a HEART score ≤ 2 in 96 (16%) patients. No MACE occurred in these groups, giving both scores a sensitivity of 100% (95% confidence interval [CI] 91.6-100%), and specificity of 11.6% (95% CI 9.2-14.5%) and 17.1% (95% CI 14.2-20.5%), respectively. Use of combined TIMI and HEART scores improved the specificity further to 22.0% (95% CI 18.7-25.6%) without lowering sensitivity. Early H-FABP measurement $> 7 \mu\text{g/L}$ had a sensitivity of 41.5% (95% CI 27.8-56.6%) and a specificity of 91.1% (95% CI 88.4-93.2%) for predicting 30-day MACE. **CONCLUSIONS** A modified TIMI score of 0 or a HEART score of ≤ 2 , incorporating a single hs-cTnT level, will identify patients with low risk of 30-day MACE for early discharge within 2 h of ED arrival.

Disseminated Intravascular Coagulation in Emergency Department Patients With Primary Postpartum Hemorrhage.

Author(s): Sohn, Chang Hwan; Kim, So Ra; Kim, Youn-Jung; Seo, Dong Woo; Ahn, Shin

Source: Shock (Augusta, Ga.); Sep 2017; vol. 48 (no. 3); p. 329-332

Publication Type(s): Journal Article

Abstract: The aim of this study was to evaluate the prevalence of disseminated intravascular coagulation and to determine whether the presence of disseminated intravascular coagulation is associated with major adverse events in patients with primary post-partum hemorrhage (PPH) who present to the emergency department. This retrospective case-control study was conducted in the emergency department of a university-affiliated, tertiary referral center between January 1, 2004 and December 31, 2013. Patients were classified into disseminated intravascular coagulation (disseminated intravascular coagulation score ≥ 5) and non-disseminated intravascular coagulation groups. The two groups were compared in terms of clinical characteristics and the occurrence of major adverse events, defined as massive transfusion (≥ 10 units of packed red blood cells within 24 h of emergency department admission), invasive intervention (uterine artery embolization or emergency hysterectomy), hospital days, ventilator-free days, intensive care unit admission, intensive care unit-free days, and in-hospital mortality. Among 255 patients with primary PPH, 57 patients (22.4%) had overt disseminated intravascular coagulation. The disseminated intravascular coagulation group had significantly lower hemoglobin, hematocrit, platelet counts, and fibrinogen levels than the non-disseminated intravascular coagulation group; in addition, they had higher prothrombin times, and D-dimer levels ($P < 0.01$). The occurrence of major adverse events was greater in the disseminated intravascular coagulation group than in the non-disseminated intravascular coagulation group (96.5% vs. 44.4%, $P < 0.01$). In conclusion, disseminated intravascular coagulation was frequently found in combination with primary PPH, and the outcome was worse in these patients than in those without disseminated intravascular coagulation.

Acute coronary syndrome risk prediction of rapid emergency medicine scoring system in acute chest pain. An observational study of patients presenting with chest pain in the emergency department in Central Saudi Arabia.

Author(s): Mehmood, Tahir; Al Shehrani, Mohammad S; Ahmad, Muhammad

Source: Saudi medical journal; Sep 2017; vol. 38 (no. 9); p. 900-904

Publication Type(s): Journal Article

Available at [Saudi medical journal](#) - from EBSCO (MEDLINE Complete)

Abstract:OBJECTIVE To assess the diagnostic validity of the rapid emergency medical score (REMS) for the risk stratification of acute coronary syndrome (ACS) from non-cardiogenic chest pain. Methods: An observational cross-sectional study was carried out among patients presenting with chest pain to the Emergency Department of Prince Sultan Military Medical City, Riyadh, Kingdom of Saudi Arabia, for 6 months from January to June 2016. All patients, included through non-probability convenience sampling, were assessed using standard protocols for the physiological parameters of the REMS, and ACS was confirmed through electrocardiography, cardiac enzyme testing, and angiography (if needed). Data were analyzed using Statistical Package for Social Sciences software version 15 (SPSS Inc, Chicago, IL, USA). The validity of REMS was determined using a cutoff value of 17. Results: In total, 176 (70.4%) of patients were men with a mean age of 49 ± 8.5 years. The mean REM score of the patients was 9.3 ± 4.5 , and a sensitivity of 81.6%, specificity of 90.05%, positive predictive value of 66.67%, and a negative predictive value of 95.26% were obtained. Conclusion: Rapid emergency medical score is a simple and fairly valid tool that may be used for diagnosis of ACS with limited resources in emergency medicine.

Inclusion of emergency department patients in early stages of sepsis in a quality improvement programme has the potential to improve survival: a prospective dual-centre study.

Author(s): De Groot, Bas; Struyk, Bastiaan; Najafi, Rashed; Halma, Nieke; Pelsler, Loekie

Source: Emergency medicine journal : EMJ; Sep 2017; vol. 34 (no. 9); p. 578-585

Publication Type(s): Journal Article

Available at [Emergency medicine journal : EMJ](#) - from BMJ Journals

Abstract:STUDY OBJECTIVE Sepsis quality improvement programmes typically focus on severe sepsis (ie, with acute organ failure). However, quality of ED care might be improved if these programmes included patients whose progression to severe sepsis could still be prevented (ie, infection without acute organ failure). We compared the impact on mortality of implementing a quality improvement programme among ED patients with a suspected infection with or without acute organ failure. METHOD This prospective observational study among ED patients hospitalised with suspected infection was conducted in two hospitals in the Netherlands. After stratification by sepsis category (with or without organ failure), in-hospital mortality was compared between a full compliance (all quality performance measures achieved) and an incomplete compliance group. Multivariable logistic regression analysis was used to quantify the impact of full compliance on in-hospital mortality, adjusting for disease severity, disposition and hospital. RESULT There were 1732 ED patients and 130 deaths. Full compliance was independently associated with approximately two-thirds reduction in the odds of hospital mortality (adjusted OR of 0.30 (95% CI 0.19 to 0.47), which was similar in patients with and without organ failure. Among the 1379 patients with suspected infection without acute organ failure, there were 64 deaths, 15 (1.1%) in the full compliance group and 49 (3.6%) in the incomplete compliance group (mortality difference 2.5% (95% CI 1.6% to 3.3%)). Among 353 patients with organ failure, there were 66 deaths, 12 (3.4%) in the full compliance compared with 54 (15.3%) in the incomplete compliance group (mortality difference 11.9% (95% CI 8.5% to 15.3%)). Thus, there was a difference of 76 deaths between full and incomplete compliance groups, and 34 (45%) who benefited were those without acute organ failure. CONCLUSION Sepsis quality improvement programmes should incorporate ED patients in earlier stages of sepsis given the potential to reduce in-hospital mortality among this population.

Sensitive Troponin I and Stress Testing in the Emergency Department for the Early Management of Chest Pain Using 2-Hour Protocol.

Author(s): Dadkhah, Shahriar; Almuwaqqat, Zakaria; Sulaiman, Samian; Husein, Husein

Source: Critical pathways in cardiology; Sep 2017; vol. 16 (no. 3); p. 89-92

Publication Type(s): Journal Article

PubMedID: 28742643

Abstract:BACKGROUND Despite improvements in identifying high-risk patients with non-ST segment ACS (acute coronary syndrome), low risk patients presenting with atypical chest pain and non-diagnostic Electrocardiogram (ECG) continued to undergo unnecessary admissions and testing. Since 1992, our chest pain protocol included using 4-hour serial biomarkers from ED admission in combination with stress testing to evaluate these patients. Our study aimed at determining whether a new accelerated diagnostic protocol using sensitive cardiac troponin I (cTnI) 2 hours after admission to the ED followed by stress testing is safe and effective in emergency settings, allowing for appropriate triage, earlier discharge and reducing costs. METHODS We conducted a single center randomized trial at Presence St. Francis Hospital Chest pain center in Evanston, Illinois enrolling sixty-four consecutive patients with atypical chest pain and non-diagnostic ECG, participants were randomized to accelerated 2 hrs protocol or our pre-existing 4-hrs protocol. Sixty patients completed the protocol and were randomized to either a 2-hour (29 patients) or 4-hour protocol using both I-STAT and PATHFAST cTnI (31 Patients). Troponin I was evaluated at 0 and at 2 hours from ED presentation with an additional draw for patients in the 4-hour rule out-group. Patients with normal serial biomarkers were then evaluated with stress testing and qualified for earlier discharge if the stress test was negative, while those with a positive biomarker at any time were admitted. Thirty-six patients had exercise treadmill stress test and 24 patients had either nuclear or Echo stress test. RESULTS Fifty-three patients had a normal stress test and were discharged home. One patient in the 4-hour group with normal serial troponins developed ventricular tachycardia/fibrillation during the recovery period of a regular stress test. Six patients had a positive PATHFAST cTnI and a normal I-STAT cTnI at 2-hours. Two out of these six patients evaluated by coronary angiography. One patient had severe tortuous coronaries but no significant obstructive lesion and one had a severe CAD who needed Coronary artery bypass grafting (CABG). Three of the six patients had a normal stress test and one patient decided to leave without further testing. None of the patients with a normal stress test had a major cardiac event or adverse cardiac outcome at six-month follow up. CONCLUSION This study demonstrates that the 2 hours accelerated protocol using high sensitivity Troponin assay at 0 and 2 hours with comprehensive clinical evaluation and ECG followed by stress testing might be successful in identifying low-risk patient population who may benefit from early discharge from ED reducing associated costs and length of stay.

Depression is associated with recurrent chest pain with or without coronary artery disease: A prospective cohort study in the emergency department.

Author(s): Kim, Yeunjung; Soffler, Morgan; Paradise, Summer; Jelani, Qurat-Ul-Ain; Dziura, James

Source: American heart journal; Sep 2017; vol. 191 ; p. 47-54

Publication Type(s): Journal Article

Abstract:BACKGROUND Only a small fraction of acute chest pain in the emergency department (ED) is due to obstructive coronary artery disease (CAD). ED chest pain remains associated with high rates of recidivism, often in the presence of nonobstructive CAD. Psychological states such as depression, anxiety, and elevation of perceived stress may account for this finding. The objective of the study was to determine whether psychological states predict recurrent chest pain (RCP). METHODS We conducted a prospective cohort study of low- to moderate-cardiac risk ED patients admitted to the Yale Chest Pain Center with acute chest pain. Depression, anxiety, and perceived stress were assessed in each patient using multistudy-validated screening scales: Patient Health Questionnaire (PHQ8), Clinical Anxiety Scale (CAS), and Perceived Stress Scale (PSS), respectively. All patients ruled out for infarction underwent appropriate cardiac stress testing. Primary outcome was RCP at 30 days evaluated by phone follow-up and medical record. The relationship between each psychological

scale and RCP was evaluated using ordinal logistic regressions, controlling for known sociodemographic and cardiac risk factors. Depression (PHQ8 \geq 10), anxiety (CAS \geq 30), and perceived stress (PSS \geq 15) were considered positive. RESULTS Between August 2013 and May 2015, 985 patients were screened at the Yale Chest Pain Center. Of 500 enrolled patients, 483 patients had complete data and 365 (76%) patients completed follow-up. Thirty-six percent (n=131) had RCP within 1 month. On multivariable regression models, depression (odds ratio [OR]=2.11, 95% CI 1.18-3.79) was a significant independent predictor of 30-day chest pain recurrence after adjustment, whereas PSS (OR=0.96, 95% CI 0.60-1.53) and anxiety (OR=1.59, 95% CI 0.80-3.20) were not. Similarly, there was a direct relationship between psychometric evaluation of depression (via PHQ8) and the frequency of chest pain. CONCLUSIONS Depression is independently associated with RCP regardless of significant cardiac ischemia on stress testing. Identification and targeted interventions may curtail recidivism with RCP.

Impaired cognition is highly prevalent and independently associated with adverse outcomes in older patients presenting to the emergency department; The APOP study

Author(s): Lucke J.; Heringhaus C.; De Groot B.; De Gelder J.; Blauw G.J.; Mooijaart S.; Fogteloo J.

Source: European Geriatric Medicine; Sep 2017; vol. 8

Publication Type(s): Conference Abstract

Abstract: Introduction: We investigated whether impaired cognition is associated with adverse outcomes in older emergency department (ED) patients, because this association could have large implications for ED management and follow-up after disposition. Methods: A prospective multi-center cohort study was performed in all acutely presenting older patients visiting the ED (APOP study). Demographic data, disease severity and geriatric characteristics were collected during the first hour of the ED visit. Cognition was measured using the 6 Item Cognitive Impairment Test (6CIT). Cognitive impairment was defined as a 6CIT \geq 11, self-reported dementia or the inability to perform the cognition test. Adverse outcome after three and twelve months was defined as a 1 point decrease in Katz-ADL, new institutionalization or mortality. Multivariable regression analysis was used to assess whether impaired cognition independently associates with adverse outcome. Results: Of the 2131 included patients 588 (27.6%) had cognitive impairment. A total of 375 (24.5%) patients with normal cognition suffered from adverse outcomes after three months, compared to 280 (47.8%) patients with impaired cognition. The association remained after correction for baseline functional status, disease severity and comorbidities (OR 1.71, 95% CI: 1.36-2.15). After twelve months 332 (27.9%) patients with normal cognition suffered from adverse outcome, compared to 240 (54.5%) patients with impaired cognition (adjusted OR 1.89, 95% CI: 1.46-2.46). Conclusions: Cognitive impairment is highly prevalent in older ED patients and is associated with adverse outcome after three and twelve months, independent of baseline functional status, disease severity and comorbidities. This emphasizes the importance for ED physicians to assess cognition and possibly intervene.

Screening for frailty in the emergency department: The utility of the SHARE-FI in predicting outcomes in a cohort of older patients

Author(s): Fallon A.; Kilbane L.; Briggs R.; Coughlan T.; Collins R.; O'Neill D.; Kennelly S.

Source: European Geriatric Medicine; Sep 2017; vol. 8

Publication Type(s): Conference Abstract

Abstract: Introduction: Greater numbers of older patients are accessing hospital services. Specialist geriatric input at presentation may improve outcomes for high risk patients. The Survey of Health, Ageing and Retirement in Europe Frailty Instrument (SHARE-FI) was developed for use in the community but has been shown to be useful in the emergency department (ED). To measure frailty,

review its prevalence in older patients presenting to ED and compare characteristics and outcomes of frail patients with their non-frail counterparts. Methods: Prospective cohort study was carried out with pre-specified convenience sampling of those aged ≥ 70 years presenting to ED on a 24/7 basis, from January-August 2014. Patient characteristics were recorded using symphony ^{###}/_{sup} electronic data systems; SHARE-FI assessed frailty. Cognition, delirium and six and twelve month outcomes were reviewed. Results: Older patients were more likely to die (OR 2.34, 95% CI 1.30-4.21, $p=0.004$) and less likely to be alive and at home at twelve months (OR=0.49, 95% CI: 0.23-0.83, $p=0.009$). Patients with dementia (OR=0.24, $p=0.005$) and on ≥ 5 medications (OR=0.37, 95% CI: 0.16-0.87, $p=0.022$) had a lower likelihood of being alive and at home at twelve months. Frailty was not associated with a significant difference in mortality rates (OR=0.89, 95% CI: 0.58-1.38, $p=0.614$) or being alive and at home at twelve months (OR=1.07, 95% CI: 0.72-1.57, $p=0.745$). Conclusions: This study suggests SHARE-FI was an inappropriate screening instrument in ED. It may be more useful to treat all older patients as being at risk of adverse outcomes. New screening tools to assess older patients presenting to hospital are required.

Quantitative real-time analysis of the sublingual microvascular glycocalyx by emergency room and intensive care unit nurses-the GlycoNurse study

Author(s): Rovas A.; Lukasz A.H.; Pavenstadt H.; Kumpers P.; Vink H.; Sackarnd J.

Source: Infection; Sep 2017; vol. 45 (no. 1)

Publication Type(s): Conference Abstract

Abstract: Introduction: Deterioration of the endothelial glycocalyx (eGC), a protective carbohydrate-rich layer lining the luminal surface of the endothelium, plays a key role in vascular barrier dysfunction and eventually organ-failure in systemic inflammatory response syndrome and sepsis. Early detection of glycocalyx damage could thus become an important goal in critical care. Objectives: This study was designed to determine the feasibility and reproducibility of quantitative, real-time glycocalyx measurements performed by trained nurses in the emergency room (ER) and intensive care unit (ICU). Methods: The observational study included 70 patients admitted to the ER or ICU of a university hospital. The nurse in charge of the patient and a physician performed sublingual microcirculatory measurements using sidestream dark field (SDF) imaging. GlycoCheckTM software for automated data acquisition and analysis was used to analyze the perfused boundary region (PBR), an inverse parameter of endothelial glycocalyx dimensions in vessels with diameters of between 5 and 25 μm . Results: There were no significant differences in the PBR values obtained by the nurses when compared to those reported by the physician (and which was regarded as the "gold standard" measurement). Intraclass correlation coefficient analysis showed excellent reproducibility between the nurses' and physician's PBRs (0.75 [(95% CI: 0.52-0.87)]). The mean difference between the two PBRs (i.e., the bias) was 0.007 \pm 0.25 μm . The nurses' PBR assessment had a 90% sensitivity (95% CI: 60-99%) and 90% specificity (95% CI: 80-93%) to identify a severely impaired glycocalyx. Conclusions: ER and ICU nurses can reliably measure glycocalyx dimensions by non-invasive assessment of the PBR. This assessment could become part of standard monitoring and contribute to clinical decision-making and resuscitation protocols in clinical trials and daily practice.

Infectious diseases specialist management improves outcomes for outpatients diagnosed with cellulitis in the emergency department: A double cohort study

Author(s): Jain S.R.; Dwek P.; Hosseini-Moghaddam S.M.; Gupta K.; Elsayed S.; Thompson G.W.

Source: Diagnostic Microbiology and Infectious Disease; Sep 2017

Publication Type(s): Article In Press

Abstract: Three hospital emergency rooms (ERs) routinely referred all cases of cellulitis requiring outpatient intravenous antibiotics, to a central ER-staffed cellulitis clinic. We performed a

retrospective cohort study of all patients seen by the ER clinic in the last 4. months preceding a policy change (ER management cohort [ERMC]) (n = 149) and all those seen in the first 3. months of a new policy of automatic referral to an infectious disease (ID) specialist-supervised cellulitis clinic (ID management cohort [IDMC]) (n = 136). Fifty-four (40%) of 136 patients in the IDMC were given an alternative diagnosis (noncellulitis), compared to 16 (11%) of 149 in the ERMC (P < 0.0001). Logistic regression-demonstrated rates of disease recurrence were lower in the IDMC than the ERMC (hazard ratio [HR], 0.06; P = 0.003), as were rates of hospitalization (HR, 0.11; P = 0.01). There was no significant difference in mortality. Automatic ID consultation for cellulitis was beneficial in differentiating mimickers from true cellulitis, reducing recurrence, and preventing hospital admissions. Copyright © 2017 The Authors.

Clinical predictors of the leading pathogens in human immunodeficiency virus-infected adults with community-onset bacteremia in the emergency department: The importance of transmission routes

Author(s): Lee C.-C.; Ko W.-C.; Chou Y.-J.; Hung C.-C.; Lin J.-N.; Chu F.-Y.; Tang H.-J.; Lai C.-H.

Source: Journal of Microbiology, Immunology and Infection; Sep 2017

Publication Type(s): Article In Press

Abstract:Background/Purpose: To investigate the clinical characteristics and pathogens of community-onset bacteremia among human immunodeficiency virus (HIV)-infected adults as well as to establish the clinical predictors of the major microorganisms. Methods: An observational cohort study was conducted retrospectively between January 2007 and December 2012. Demographic characteristics and pathogens determined from chart records were analyzed. Results: Of the 121 eligible HIV adults with bacteremia, there was a male predominance (106 patients, 87.6%); elderly individuals (age \geq 65 years) accounted for only 2.5% of the study population (3 patients). Of the total microorganisms isolated (n = 123), *Staphylococcus aureus* (55, 44.7%) and *Salmonella enterica* (17, 13.8%) were the common pathogens. In a multivariate analysis, the leading two significant predictors of *S. aureus* infection were infective endocarditis (odds ratio, 11.49; p = 0.001) and transmission risk with injection drug users (IDUs; odds ratio, 6.22; p = 0.001). In addition, transmission risk with men who have sex with men (MSM; odds ratio, 37.49; p = 0.001) was the leading clinical predictor of *S. enterica* infection. In further analyses, a strong linear-by-linear correlation between *S. aureus* infection and IDU (γ = 0.94, p = 0.02) as well as between *S. enterica* infection and MSM (γ = 0.96, p = 0.01) was evidenced. Conclusion: Focusing on the two key pathogens in HIV-infected adults with community-onset bacteremia, IDU was one of independent predictors associated with *S. aureus* infection, whereas MSM was the leading risk factor of *S. enterica* infection. Although the proposed predictive model of these pathogens has been not established, a scoring system involving the transmission risk of HIV may be of use for the early identification of these patients for clinicians. Copyright © 2017.



The Library

**Level 5
Education Centre
University Hospitals Bristol**

Staffed: 08.00—17.00, Monday to Friday

Swipe Access: 07.00—23.00, seven days a week

Contact your Outreach Librarian:

Jo Hooper

library@uhbristol.nhs.uk

Ext. 20105