Sepsis bulletin – June 2017
Compiled by John Gale – JET Library
Contents

Managing sepsis effectively with national early warning scores and screening tools........3
The ABCCs of Sepsis: A Framework for Understanding the Pathophysiology of Sepsis. ...3
Corticosteroid use linked to risk for sepsis ...............................................................4
Delayed Second Dose Antibiotics for Patients Admitted From the Emergency Department
With Sepsis: Prevalence, Risk Factors, and Outcomes...........................................4
Association Between Hospital Case Volume of Sepsis, Adherence to Evidence-Based
Processes of Care and Patient Outcomes. ...................................................................5
Physician Variation in Time to Antimicrobial Treatment for Septic Patients Presenting to
the Emergency Department ......................................................................................6
American College of Critical Care Medicine Clinical Practice Parameters for
Hemodynamic Support of Pediatric and Neonatal Septic Shock ................................7
Safe at First, But Not Reaching Second: Implications of Delayed Second Doses of
Antimicrobials in Patients Presenting to Emergency Departments With Sepsis ..........8
Sepsis: Current Definition, Pathophysiology, Diagnosis, and Management ...............8
Antibiotics for Sepsis - Does Each Hour Really Count? Or is it Incestuous Amplification?8
Updated Sepsis Guidelines Provide Consensus Recommendations ..........................9
Choosing Wisely: Reduction of Antibiotic Use for Early-Onset Sepsis Prophylaxis in
Neonates ....................................................................................................................9
Delays From First Medical Contact to Antibiotic Administration for Sepsis ...............9
Serial Procalcitonin Predicts Mortality in Severe Sepsis Patients: Results From the
Multicenter Procalcitonin MOntoring SEpsis (MOSES) Study .................................10
Antibiotics in Sepsis: The New Frontier ...................................................................11
"Defining" Sepsis: Moving Toward Measuring the "Dysregulated Host Response" ....11
Systematic Review of Gender Differences in Sepsis Management and Outcomes........11
Sepsis to be treated within 1 hour, according to NICE guidance ..............................12
Development and validation of a parsimonious and pragmatic CHARM score to predict
mortality in patients with suspected sepsis ..............................................................13
Quick sepsis-related organ failure assessment (qSOFA) predicting outcomes in patients
with infection, some lingering doubts ......................................................................13
Managing sepsis effectively with national early warning scores and screening tools.

Author(s): Jones, Joanne
Source: British Journal of Community Nursing; Jun 2017; vol. 22 (no. 6); p. 278-281
Publication Date: Jun 2017
Publication Type(s): Academic Journal
Available in full text at British Journal of Community Nursing - from Internurse
Available in full text at British Journal of Community Nursing - from EBSCOhost
Database: CINAHL

The ABCCs of Sepsis: A Framework for Understanding the Pathophysiology of Sepsis.

Author(s): Ladha, El; House-Kokan, Michelle
Source: Canadian Journal of Critical Care Nursing; Jun 2017; vol. 28 (no. 2); p. 38-38
Publication Date: Jun 2017
Publication Type(s): Academic Journal
Available in full text at Canadian Journal of Critical Care Nursing, The - from ProQuest
Available in full text at Canadian Journal of Critical Care Nursing - from EBSCOhost
Available in full text at Canadian Journal of Critical Care Nursing, The - from ProQuest
Abstract: Purpose/goals: To introduce and apply a framework for simplifying, understanding, and recalling the pathophysiology of sepsis as a tool for understanding and confidently managing its clinical presentation. Session description: Sepsis is an extremely common diagnosis with an overall mortality rate of around 30% (CIHI, 2009). Sepsis manifests in increasing severity across a continuum that begins with systemic inflammatory response syndrome and progresses to septic shock and multiple organ dysfunction syndrome. All critical care nurses, across diverse communities and units, will care for patients experiencing sepsis frequently throughout their careers. However, this is a challenging task as new innovations in treatment modalities occur frequently, as our understanding of this complex disorder evolves (Cawcutt & Peters, 2014). To provide quality care in the face of ever-changing treatment guidelines, it is imperative that critical care nurses have a solid understanding of the complex pathophysiology of sepsis. In this engaging, interactive presentation, a framework for simplifying, understanding, and recalling the pathophysiology of sepsis is presented. Participants will learn about the "ABCCs" of sepsis pathophysiology and cellular oxygen supply and demand balance. The links between the pathophysiology and the patient's overall clinical presentation and consequent treatment will be clarified in a meaningful and memorable way using theoretical review, and interactive case studies. Participants will leave this presentation with confidence in their understanding of, and ability to manage, this complex and serious syndrome. Learning outcomes: 1. Use the ABCCs of
Sepsis Framework to understand the pathophysiology of sepsis, including effects on cellular oxygen supply and demand balance. 2. Describe and explain the links between the pathophysiology of sepsis, and the patient's clinical presentation and consequent treatment confidently.

**Database:** CINAHL

**Corticosteroid use linked to risk for sepsis.**
**Source:** Clinical Advisor; Jun 2017; vol. 20 (no. 6); p. 11-11
**Publication Date:** Jun 2017
**Publication Type(s):** Periodical
Available in full text at Clinical Advisor : For Nurse Practitioners, The - from ProQuest
**Database:** CINAHL

**Delayed Second Dose Antibiotics for Patients Admitted From the Emergency Department With Sepsis: Prevalence, Risk Factors, and Outcomes.**
**Author(s):** Leisman, Daniel; Huang, Victor; Qiuping Zhou; Gribben, Jeanie; Bianculli, Andrea; Bernshteyn, Michelle; Ward, Mary Frances; Schneider, Sandra M.; Zhou, Qiuping
**Source:** Critical Care Medicine; Jun 2017; vol. 45 (no. 6); p. 956-965
**Publication Date:** Jun 2017
**Publication Type(s):** Academic Journal
Available in full text at Critical Care Medicine - from Ovid
**Abstract:** Objective: 1) Determine frequency and magnitude of delays in second antibiotic administration among patients admitted with sepsis; 2) Identify risk factors for these delays; and 3) Exploratory: determine association between delays and patient-centered outcomes (mortality and mechanical ventilation after second dose). Design: Retrospective, consecutive sample sepsis cohort over 10 months. Setting: Single, tertiary, academic medical center. Patients: All patients admitted from the emergency department with sepsis or septic shock (defined: infection, ≥ 2 systemic inflammatory response syndrome criteria, hypoperfusion/organ dysfunction) identified by a prospective quality initiative. Exclusions: less than 18 years old, not receiving initial antibiotics in the emergency department, death before antibiotic redosing, and patient refusing antibiotics. Interventions: We determined first-to-second antibiotic time and delay frequency. We considered delay major for first-to-second dose time greater than or equal to 25% of the recommended interval. Factors of interest were demographics, recommended interval length, comorbidities, clinical presentation, location at second dose, initial resuscitative care, and antimicrobial activity mechanism. Measurements and Main Results: Of 828 sepsis cases, 272 (33%) had delay greater than or equal to 25%. Delay frequency increased dose dependent with shorter recommended interval: 11 (4%) delays for 24-hour intervals (median time, 18.52 hr); 31 (26%) for 12-hour intervals (median, 10.58 hr); 117 (47%) for 8-hour intervals (median, 9.60 hr); and 113 (72%) for 6-hour
intervals (median, 9.55 hr). In multivariable regression, interval length significantly predicted major delay (12 hr: odds ratio, 6.98; CI, 2.33-20.89; 8 hr: odds ratio, 23.70; CI, 8.13-69.11; 6 hr: odds ratio, 71.95; CI, 25.13-206.0). Additional independent risk factors were inpatient boarding in the emergency department (odds ratio, 2.67; CI, 1.74-4.09), initial 3-hour sepsis bundle compliance (odds ratio, 1.57; CI, 1.07-2.30), and older age (odds ratio, 1.16 per 10 yr, CI, 1.01-1.34). In the exploratory multivariable analysis, major delay was associated with increased hospital mortality (odds ratio, 1.61; CI, 1.01-2.57) and mechanical ventilation (odds ratio, 2.44; CI, 1.27-4.69). Conclusions: Major second dose delays were common, especially for patients given shorter half-life pharmacotherapies and who boarded in the emergency department. They were paradoxically more frequent for patients receiving compliant initial care. We observed association between major second dose delay and increased mortality, length of stay, and mechanical ventilation requirement.

Database: CINAHL

Association Between Hospital Case Volume of Sepsis, Adherence to Evidence-Based Processes of Care and Patient Outcomes.

Author(s): Fawzy, Ashraf; Walkey, Allan J.

Source: Critical Care Medicine; Jun 2017; vol. 45 (no. 6); p. 980-988

Publication Date: Jun 2017

Publication Type(s): Academic Journal

Available in full text at Critical Care Medicine - from Ovid

Abstract: Objectives: We sought to explore potential mechanisms underlying hospital sepsis case volume-mortality associations by investigating implementation of evidence-based processes of care. Design: Retrospective cohort study. We determined associations of sepsis case volume with three evidence-based processes of care (lactate measurement during first hospital day, norepinephrine as first vasopressor, and avoidance of starch-based colloids) and assessed their role in mediation of case volume-mortality associations. Setting: Enhanced administrative data (Premier, Charlotte, NC) from 534 U.S. hospitals. Subjects: A total of 287,914 adult patients with sepsis present at admission between July 2010 and December 2012 of whom 58,045 received a vasopressor for septic shock during the first 2 days of hospitalization. Interventions: None. Measurements and Main Results: Among patients with sepsis, 1.9% received starch, and among patients with septic shock, 68.3% had lactate measured and 64% received norepinephrine as initial vasopressor. Patients at hospitals with the highest case volume were more likely to have lactate measured (adjusted odds ratio quartile 4 vs quartile 1, 2.8; 95% CI, 2.1-3.7) and receive norepinephrine as initial vasopressor (adjusted odds ratio quartile 4 vs quartile 1, 2.1; 95% CI, 1.6-2.7). Case volume was not associated with avoidance of starch products (adjusted odds ratio quartile 4 vs quartile 1, 0.73; 95% CI, 0.45-1.2). Adherence to evidence-based care was associated with lower hospital mortality (adjusted odds ratio, 0.81; 95% CI, 0.70-0.94) but did not strongly mediate case volume-mortality associations (point estimate change ≤ 2%). Conclusions: In a large cohort of U.S. patients with sepsis, select evidence-based processes of care were more
likely implemented at high-volume hospitals but did not strongly mediate case volume-mortality associations. Considering processes and case volume when regionalizing sepsis care may maximize patient outcomes.

**Database:** CINAHL

**Physician Variation in Time to Antimicrobial Treatment for Septic Patients Presenting to the Emergency Department.**

**Author(s):** Peltan, Ithan D.; Mitchell, Kristina H.; Rudd, Kristina E.; Mann, Blake A.; Carlbom, David J.; Hough, Catherine L.; Rea, Thomas D.; Brown, Samuel M.

**Source:** Critical Care Medicine; Jun 2017; vol. 45 (no. 6); p. 1011-1018

**Publication Date:** Jun 2017

**Publication Type(s):** Academic Journal

Available in full text at [Critical Care Medicine](http://www.criticalcaremedicine.com) - from Ovid

**Abstract:** Objectives: Delayed initiation of appropriate antimicrobials is linked to higher sepsis mortality. We investigated interphysician variation in septic patients' door-to-antimicrobial time. Design: Retrospective cohort study. Setting: Emergency department of an academic medical center. Subjects: Adult patients treated with antimicrobials in the emergency department between 2009 and 2015 for fluid-refractory severe sepsis or septic shock. Patients who were transferred, received antimicrobials prior to emergency department arrival, or were treated by an attending physician who cared for less than five study patients were excluded. Interventions: None. Measurements and Main Results: We employed multivariable linear regression to evaluate the association between treating attending physician and door-to-antimicrobial time after adjustment for illness severity (Acute Physiology and Chronic Health Evaluation II score), patient age, prehospital or arrival hypotension, admission from a long-term care facility, mode of arrival, weekend or nighttime admission, source of infection, and trainee involvement in care. Among 421 eligible patients, 74% received antimicrobials within 3 hours of emergency department arrival. After covariate adjustment, attending physicians' (n = 40) median door-to-antimicrobial times varied significantly, ranging from 71 to 359 minutes (p = 0.002). The percentage of each physician's patients whose antimicrobials began within 3 hours of emergency department arrival ranged from 0% to 100%. Overall, 12% of variability in antimicrobial timing was explained by the attending physician compared with 4% attributable to illness severity as measured by the Acute Physiology and Chronic Health Evaluation II score (p < 0.001). Some but not all physicians started antimicrobials later for patients who were normotensive on presentation (p = 0.017) or who had a source of infection other than pneumonia (p = 0.006). The adjusted odds of in-hospital mortality increased by 20% for each 1 hour increase in door-to-antimicrobial time (p = 0.046). Conclusions: Among patients with severe sepsis or septic shock receiving antimicrobials in the emergency department, door-to-antimicrobial times varied five-fold among treating physicians. Given the association between antimicrobial delay and mortality, interventions to reduce physician variation in antimicrobial initiation are likely indicated.
American College of Critical Care Medicine Clinical Practice Parameters for Hemodynamic Support of Pediatric and Neonatal Septic Shock.

Author(s): Davis, Alan L.; Carcillo, Joseph A.; Aneja, Rajesh K.; Deymann, Andreas J.; Lin, John C.; Trung C. Nguyen; Okhuysen-Cawley, Regina S.; Relvas, Monica S.; Rozenfeld, Anna A.; Skippen, Peter W.; Stojadinovic, Bonnie J.; Williams, Eric A.; Yeh, Tim S.; Balamuth, Fran; Brierley, Joe; de Caen, Allan R.; Cheifetz, Ira M.; Choong, Karen; Conway Jr, Edward; Cornell, Timothy

Source: Critical Care Medicine; Jun 2017; vol. 45 (no. 6); p. 1061-1093

Publication Date: Jun 2017

Publication Type(s): Academic Journal

Available in full text at Critical Care Medicine - from Ovid

Abstract: Objectives: The American College of Critical Care Medicine provided 2002 and 2007 guidelines for hemodynamic support of newborn and pediatric septic shock. Provide the 2014 update of the 2007 American College of Critical Care Medicine "Clinical Guidelines for Hemodynamic Support of Neonates and Children with Septic Shock." Design: Society of Critical Care Medicine members were identified from general solicitation at Society of Critical Care Medicine Educational and Scientific Symposia (2006-2014). The PubMed/Medline/Embase literature (2006-14) was searched by the Society of Critical Care Medicine librarian using the keywords: sepsis, septicemia, septic shock, endotoxemia, persistent pulmonary hypertension, nitric oxide, extracorporeal membrane oxygenation, and American College of Critical Care Medicine guidelines in the newborn and pediatric age groups. Measurements and Main Results: The 2002 and 2007 guidelines were widely disseminated, translated into Spanish and Portuguese, and incorporated into Society of Critical Care Medicine and American Heart Association/Pediatric Advanced Life Support sanctioned recommendations. The review of new literature highlights two tertiary pediatric centers that implemented quality improvement initiatives to improve early septic shock recognition and first-hour compliance to these guidelines. Improved compliance reduced hospital mortality from 4% to 2%. Analysis of Global Sepsis Initiative data in resource rich developed and developing nations further showed improved hospital mortality with compliance to first-hour and stabilization guideline recommendations. Conclusions: The major new recommendation in the 2014 update is consideration of institution-specific use of 1) a "recognition bundle" containing a trigger tool for rapid identification of patients with septic shock, 2) a "resuscitation and stabilization bundle" to help adherence to best practice principles, and 3) a "performance bundle" to identify and overcome perceived barriers to the pursuit of best practice principles.

Database: CINAHL
Safe at First, But Not Reaching Second: Implications of Delayed Second Doses of Antimicrobials in Patients Presenting to Emergency Departments With Sepsis.

Author(s): Fraimow, Henry S.
Source: Critical Care Medicine; Jun 2017; vol. 45 (no. 6); p. 1097-1098
Publication Date: Jun 2017
Publication Type(s): Academic Journal
Available in full text at Critical Care Medicine - from Ovid
Abstract: The article discusses research that examined the epidemiology of second antimicrobial doses in sepsis by analyzing the second dose administration using a single institutional database of patients presented to an emergency department (ED) with sepsis and septic shock. Topics discussed include the overall one third of second doses delayed and association of dose delays with boarding of patients in the ED.
Database: CINAHL

Sepsis: Current Definition, Pathophysiology, Diagnosis, and Management.

Author(s): Taeb, Abdalsamih M.; Hooper, Michael H.; Marik, Paul E.
Source: Nutrition in Clinical Practice; Jun 2017; vol. 32 (no. 3); p. 296-308
Publication Date: Jun 2017
Publication Type(s): Academic Journal
Available in full text at Nutrition in Clinical Practice - from Highwire Press
Abstract: Sepsis is a clinical syndrome that results from the dysregulated inflammatory response to infection that leads to organ dysfunction. The resulting losses to society in terms of financial burden, morbidity, and mortality are enormous. We provide a review of sepsis, its underlying pathophysiology, and guidance for diagnosis and management of this common disease. Current established treatments include appropriate antimicrobial agents to target the underlying infection, optimization of intravascular volume to improve stroke volume, vasopressors to counteract vasoplegic shock, and high-quality supportive care. Appropriate implementation of established treatments combined with novel therapeutic approaches promises to continue to decrease the impact of this disease.
Database: CINAHL

Antibiotics for Sepsis - Does Each Hour Really Count? Or is it Incestuous Amplification?

Author(s): Singer, Mervyn
Source: American Journal of Respiratory & Critical Care Medicine; May 2017; vol. 195 (no. 10)
Publication Date: May 2017
Updated Sepsis Guidelines Provide Consensus Recommendations.

Source: AACN Bold Voices; May 2017; vol. 9 (no. 5); p. 10-10

Publication Date: May 2017

Publication Type(s): Periodical

Available in full text at AACN Bold Voices - from EBSCOhost

Database: CINAHL

Choosing Wisely: Reduction of Antibiotic Use for Early-Onset Sepsis Prophylaxis in Neonates.

Author(s): Thoni, Natalie; Gaston, Kan; Talati, Ajay J.

Source: American Journal of Medical Quality; May 2017; vol. 32 (no. 3); p. 338-338

Publication Date: May 2017

Publication Type(s): Academic Journal

Available in full text at American Journal of Medical Quality - from Highwire Press

Database: CINAHL

Delays From First Medical Contact to Antibiotic Administration for Sepsis.

Author(s): Seymour, Christopher W.; Kahn, Jeremy M.; Martin-Gill, Christian; Callaway, Clifton W.; Yealy, Donald M.; Scales, Damon; Angus, Derek C.

Source: Critical Care Medicine; May 2017; vol. 45 (no. 5); p. 759-765

Publication Date: May 2017

Publication Type(s): Academic Journal

Available in full text at Critical Care Medicine - from Ovid

Abstract: Objective: To evaluate the association between total medical contact, prehospital, and emergency department delays in antibiotic administration and in-hospital mortality among patient encounters with community-acquired sepsis. Design: Retrospective cohort
study. Setting: Nine hospitals served by 21 emergency medical services agencies in southwestern Pennsylvania from 2010 through 2012. Patients: All emergency medical services encounters with community acquired sepsis transported to the hospital. Measurements and Main Results: Among 58,934 prehospital encounters, 2,683 had community-acquired sepsis, with an in-hospital mortality of 11%. Median time from first medical contact to antibiotic administration (total medical contact delay) was 4.2 hours (interquartile range, 2.7-8.0 hr), divided into a median prehospital delay of 0.52 hours (interquartile range, 0.40-0.66 hr) and a median emergency department delay of 3.6 hours (interquartile range, 2.1-7.5 hr). In a multivariable analysis controlling for other risk factors, total medical contact delay was associated with increased in-hospital mortality (adjusted odds ratio for death, 1.03 [95% CI, 1.00-1.05] per 1-hr delay; p < 0.01), as was emergency department delay (p = 0.04) but not prehospital delay (p = 0.61). Conclusions: Both total medical contact and emergency department delay in antibiotic administration are associated with in-hospital mortality in community-acquired sepsis.

Database: CINAHL

**Serial Procalcitonin Predicts Mortality in Severe Sepsis Patients: Results From the Multicenter Procalcitonin MOonitoring SEpsis (MOSES) Study.**

**Author(s):** Schuetz, Philipp; Birkhahn, Robert; Sherwin, Robert; Jones, Alan E.; Singer, Adam; Kline, Jeffrey A.; Runyon, Michael S.; Self, Wesley H.; Courtney, D. Mark; Nowak, Richard M.; Gaieski, David F.; Ebmeyer, Stefan; Johannes, Sascha; Wiemer, Jan C.; Schwabe, Andrej; Shapiro, Nathan I.

**Source:** Critical Care Medicine; May 2017; vol. 45 (no. 5); p. 781-789

**Publication Date:** May 2017

**Publication Type(s):** Academic Journal

Available in full text at [Critical Care Medicine](https://link.to.criticalcaremedicine) - from Ovid

**Abstract:** Objectives: To prospectively validate that the inability to decrease procalcitonin levels by more than 80% between baseline and day 4 is associated with increased 28-day all-cause mortality in a large sepsis patient population recruited across the United States. Design: Blinded, prospective multicenter observational clinical trial following an Food and Drug Administration-approved protocol. Setting: Thirteen U.S.-based emergency departments and ICUs. Patients: Consecutive patients meeting criteria for severe sepsis or septic shock who were admitted to the ICU from the emergency department, other wards, or directly from out of hospital were included. Interventions: Procalcitonin was measured daily over the first 5 days. Measurements and Main Results: The primary analysis of interest was the relationship between a procalcitonin decrease of more than 80% from baseline to day 4 and 28-day mortality using Cox proportional hazards regression. Among 858 enrolled patients, 646 patients were alive and in the hospital on day 4 and included in the main intention-to-diagnose analysis. The 28-day all-cause mortality was two-fold higher when procalcitonin did not show a decrease of more than 80% from baseline to day 4 (20% vs 10%; p = 0.001). This was confirmed as an independent predictor in Cox regression analysis (hazard ratio, 1.97...
[95% CI, 1.18-3.30; p < 0.009]) after adjusting for demographics, Acute Physiology and Chronic Health Evaluation II, ICU residence on day 4, sepsis syndrome severity, antibiotic administration time, and other relevant confounders. Conclusions: Results of this large, prospective multicenter U.S. study indicate that inability to decrease procalcitonin by more than 80% is a significant independent predictor of mortality and may aid in sepsis care.

**Database:** CINAHL

---

**Antibiotics in Sepsis: The New Frontier.**

**Author(s):** Levy, Mitchell M.

**Source:** Critical Care Medicine; May 2017; vol. 45 (no. 5); p. 907-908

**Publication Date:** May 2017

**Publication Type(s):** Academic Journal

Available in full text at Critical Care Medicine - from Ovid

**Abstract:** An editorial is presented on a study on effect of timing of antibiotic administration for patients with sepsis on risk of mortality. Topics discussed include evaluation of relationship between several prehospital time periods and mortality from sepsis, weakness of the study related to patients who were transported to hospitals by emergency medical services (EMS), and challenges related to early diagnosis of infection and organ dysfunction.

**Database:** CINAHL

---

"Defining" Sepsis: Moving Toward Measuring the "Dysregulated Host Response".

**Author(s):** Deutschman, Clifford S.

**Source:** Critical Care Medicine; May 2017; vol. 45 (no. 5); p. 927-930

**Publication Date:** May 2017

**Publication Type(s):** Academic Journal

Available in full text at Critical Care Medicine - from Ovid

**Abstract:** An editorial is presented on a study within the issue on diagnosis of sepsis. Topics discussed include organ dysfunction caused by a dysregulated host response to infection, enhanced response to infection along with extensive immunosuppression, and DNA binding and interaction with other proteins including cytoplasmic inhibitor molecules.

**Database:** CINAHL

---

Systematic Review of Gender Differences in Sepsis Management and Outcomes.

**Author(s):** Failla, Kim Reina; Connelly, Cynthia D.

**Source:** Journal of Nursing Scholarship; May 2017; vol. 49 (no. 3); p. 312-324

**Publication Date:** May 2017
Purpose Contributors to disparities in sepsis management have been attributed to genetic susceptibility, differences in clinical presentation, and healthcare delivery. The influence of gender on survival or mortality of patients with sepsis-related diagnoses is unclear. The purpose of the current study was to systematically review published research to identify factors and outcomes associated with sepsis management and outcomes based on gender differences. Methods Covering a period from 2006 to 2016, a literature search was conducted on four electronic data bases including the Cumulative Index to Nursing and Allied Health Literature (CINAHL), EBSCO, MedlinePlus, and PubMed. Content analysis of each article was performed independently by two authors. The guidelines outlined in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Statement was the method used to assess the quality of evidence of the articles in this review. Findings A full review was completed on a total of 452 identified potentially relevant publications, and 7 publications met inclusion criteria. The methodological approaches included prospective and retrospective observational studies, and prospective and historical cohort studies. The aim of these studies was to identify if gender differences exist related to sepsis-related mortality, completion of Surviving Sepsis Campaign resuscitation bundle elements, sepsis-related care processes, and sepsis-related incidence and source. Conclusions Clinical sepsis studies evaluating gender and sepsis-related management and mortality are inconclusive and complex. Three different outcomes exist: no difference, higher risk in females, or higher risk in males. Further studies are needed to support the presence of gender disparities on sepsis-related healthcare outcomes. Clinical Relevance Providers should understand the importance of adhering to sepsis protocols and minimizing treatment disparities including gender differences.

Database: CINAHL

Sepsis to be treated within 1 hour, according to NICE guidance.

Author(s): Mendes, Aysha; Palmer, Sarah Jane

Source: Nurse Prescribing; May 2017; vol. 15 (no. 5); p. 214-215

Publication Date: May 2017

Publication Type(s): Academic Journal

Available in full text at Nurse Prescribing - from Internurse

Database: CINAHL
Development and validation of a parsimonious and pragmatic CHARM score to predict mortality in patients with suspected sepsis.

Author(s): Chen, Kuan-Fu; Liu, Su-Hsun; Li, Chih-Huang; Wu, Chin-Chieh; Chaou, Chung-Hsien; Tzeng, I-Shiang; Hsieh, Yu-Hsiang; Blaney, Gerald N.; Liu, Zhen-Ying; Han, Shih-Tsung; Chan, Yi-Lin

Source: American Journal of Emergency Medicine; Apr 2017; vol. 35 (no. 4); p. 640-646

Publication Date: Apr 2017

Publication Type(s): Academic Journal

Available in full text at American Journal of Emergency Medicine, The - from ProQuest

Abstract: Background: We aimed to derive and validate a parsimonious and pragmatic clinical prediction rule using the concepts of Predisposition, Infection, Response, and Organ Dysfunction to predict in-hospital mortality; and to compare it with other prediction rules, as well as with conventional biomarkers for evaluating the mortality risk of patients with suspected sepsis in the emergency department (ED). Methods: We conducted a pragmatic cohort study with consecutive ED patients aged 18 or older with documented diagnostic codes of infection and two sets of blood culture ordered by physicians between 2010 and 2012 in a tertiary teaching hospital. Results: 7011 and 12,110 patients were included in the derivation cohort and the validation cohort for the final analysis. There were 479 deaths (7%) in the derivation cohort and 1145 deaths (9%) in the validation cohort. Independent predictors of death were absence of Chills (odds ratio: 2.28, 95% confidence interval: 1.75-2.97), Hypothermia (2.12, 1.57-2.85), Anemia (2.45, 1.97-3.04), wide Red cell Distribution Width (RDW) (3.27, 2.63-4.05) and history of Malignancy (2.00, 1.63-2.46). This novel clinical prediction rule (CHARM) performed well for stratifying patients into mortality risk groups (sensitivity: 99.4%, negative predictive value 99.7%, receiver operating characteristic area 0.77). The CHARM score also outperformed the other scores or biomarkers such as PIRO, SIRS, MEDS, CURB-65, C-reactive protein, procalcitonin and lactate (all p<.05). Conclusions: In patients with suspected sepsis, this parsimonious and pragmatic model could be utilized to stratify the mortality risk of patients in the early stage of sepsis.

Database: CINAHL

Quick sepsis-related organ failure assessment (qSOFA) predicting outcomes in patients with infection, some lingering doubts.

Author(s): Zhou, Xianshi; Tang, Guanghua

Source: American Journal of Emergency Medicine; Apr 2017; vol. 35 (no. 4); p. 649-649

Publication Date: Apr 2017

Publication Type(s): Academic Journal

Available in full text at American Journal of Emergency Medicine, The - from ProQuest

Available in full text at American Journal of Emergency Medicine, The - from ProQuest
Database: CINAHL