

SEPSIS BULLETIN 28 February 2018

Adult Sepsis

[Prognostic Value of Secretoneurin in Patients With Severe Sepsis and Septic Shock: Data From the Albumin Italian Outcome Sepsis Study.](#)

Røsjø H. et al

Crit Care Med. 2018 Feb 23. [Epub ahead of print] Secretoneurin directly influences cardiomyocyte calcium handling, and circulating secretoneurin levels seem to improve risk prediction in patients with myocardial dysfunction by integrating information on systemic stress, myocardial function, and renal function. Accordingly, in this study, we hypothesized that secretoneurin would improve risk prediction in patients with sepsis and especially in patients with septic shock as these patients are more hemodynamically unstable.

[Recognition and clinical management of sepsis in frail older people.](#)

Lat S, Mashlan W, Heffey S, Jones B.

Nurs Older People. 2018 Feb 26;30(2):35-38. doi: 10.7748/nop.2018.e975.

Sepsis is a common condition caused by the body's immune and coagulation systems being 'switched on' by the presence of infection, either through bacteria or viruses in the blood. If untreated, sepsis can be life-threatening and is a leading cause of death in hospital patients worldwide. However, awareness of sepsis is low. This article provides an overview of the important role played by nurses in acute hospital settings in the early identification and treatment of suspected sepsis in frail older patients, and in escalating the care and management of deteriorating patients. It also explores recommendations in the 2016 National Institute for Health and Care Excellence guideline on sepsis recognition, diagnosis and early management.

Paediatric and Neonatal Sepsis

[Trend and outcome of sepsis in children: A nationwide cohort study](#)

Yo CH. Et al.

J Paediatr Child Health. 2018 Feb 9 [Epub ahead of print]

The aim of this study was to investigate the trend of incidence and outcome of paediatric sepsis in a population-based database. The incidence and mortality of sepsis among paediatric patients have decreased substantially between 2002 and 2012, especially among infants. The widespread use of Haemophilus influenzae and pneumococcal vaccines in infants could be a possible explanation.

[Use of plasma exchange in pediatric severe sepsis in children's hospitals](#)

Lima LM, McCracken CE, Fortenberry JD, Hebbar KB.

J Crit Care. 2018 Feb 3;45:114-120. [Epub ahead of print] Thrombocytopenia-associated multiple organ failure can lead to high mortality in critically ill children, possibly related to consequences of thrombotic microangiopathy. Plasma exchange therapy may improve thrombotic microangiopathy. The purpose of this observational cohort study is to describe whether there is an association between use of plasma exchange therapy and outcome in the Turkish thrombocytopenia-associated multiple organ failure network.

[Sepsis calculator implementation reduces empiric antibiotics for suspected early-onset sepsis](#)

Achten NB, et al.

Eur J Pediatr. 2018 Feb 18. [Epub ahead of print]

Significant overtreatment with antibiotics for suspected early onset sepsis (EOS) constitutes a persisting clinical problem, generating unnecessary risks, harms, and costs for many newborns. We aimed

[The Impact of Acute Organ Dysfunction on Long-Term Survival in Sepsis.](#)

Schuler A. et al

Crit Care Med. 2018 Feb 9 [Epub ahead of print]

Aims to estimate the impact of each of six types of acute organ dysfunction (hepatic, renal, coagulation, neurologic, cardiac, and respiratory) on long-term mortality after surviving sepsis hospitalization. Concludes that acute sepsis-related neurologic dysfunction was the organ dysfunction most strongly associated with short- and long-term mortality and represents a key mediator of long-term adverse outcomes following sepsis.

[Sepsis - thoughtful management for the non-expert.](#)

Tidswell R, Singer M.

Clin Med (Lond). 2018 Feb;18(1):62-68.18-1-62.

Sepsis is a common and often devastating medical emergency with a high mortality rate and, in many survivors, long-term morbidity. It is defined as the dysregulated host response to infection resulting in organ dysfunction, and its incidence is increasing as the population ages. However, it is a treatable and potentially reversible condition, especially if identified and treated promptly. A sound understanding of sepsis is crucial for optimal care. Although general guidelines are available for management, here we provide a foundation of understanding to encourage thoughtful, personalised management of sepsis during the acute phase. We provide an overview of the epidemiology, the new Sepsis-3 definitions, pathophysiology, clinical presentations, and investigation and management of sepsis for the non-expert.

[Overview of the incidence, early identification and management of sepsis.](#)

Ward C, Morrell-Scott N.

Nurs Stand. 2018 Feb 14;32(25):41-46.

Sepsis is a potentially life-threatening condition that is triggered by an infection. Sepsis is an urgent public health issue globally, and is one of the leading causes of death in emergency departments and hospitals. However, consensus definitions of sepsis are imprecise and the incidence and costs of the condition are thought to be underestimated. This article discusses the incidence of sepsis globally and nationally, and the effects of the condition. It emphasises the early identification and effective management of sepsis, which remain

to study feasibility and impact of a sepsis calculator to help guide antibiotic for suspected EOS in a European setting.

[IgM and IgA enriched polyclonal immunoglobulins reduce short term mortality in extremely low birth weight infants \(ELBW\) with sepsis: a retrospective cohort study.](#)

Capasso, L. et al.

Minerva Pediatr. 2018 Feb 19. [Epub ahead of print]

Immunoglobulin supplementation is a debated strategy in fighting sepsis. We evaluated a polyclonal IgM and IgA enriched immunoglobulin (IgMeIVIG) preparation in reducing the short term mortality in extremely low birth weight neonates (ELBW) with proven infection. This study shows that IgMeIVIG may have a role as adjuvant therapy in ELBW infants with proven sepsis. We warrant future prospective, blinded RCT studies where IgMeIVIG can be consistently used if needed throughout the NICU admission in ELBW septic neonates to appropriately evaluate its effect on mortality at discharge.

[Evaluation of the application of high volume hemofiltration in sepsis combined with acute kidney injury](#)

Meng SQ, et al

Eur Rev Med Pharmacol Sci. 2018 Feb;22(3):715-720

High-volume hemofiltration (HVHF) is an attractive therapy for the treatment of septic acute kidney injury (AKI). Small experimental and uncontrolled studies have suggested hemodynamic and survival benefits at higher doses of HVHF than those used for the high-intensity arms of the RENAL and ATN studies. Our aim was to evaluate the effects of high-volume hemofiltration (HVHF) compared with standard-volume hemofiltration (SVHF) for septic AKI.

[Severe maternal morbidity due to sepsis: The burden and preventability of disease in New Zealand.](#)

Lepine S, Lawton B, Geller S, Abels P, MacDonald EJ.

Aust N Z J Obstet Gynaecol. 2018 Feb 20 [Epub ahead of print]

Aims to describe the burden of severe maternal morbidity (SMM) caused by sepsis in New Zealand and investigate the potential preventability. A high index of suspicion, development of early recognition systems and multi-disciplinary training are recommended to decrease preventable cases of maternal sepsis.

[Maternal sepsis.](#)

Vaught AJ.

Semin Perinatol. 2018 Feb;42(1):9-12.

crucial to improving patient outcomes such as morbidity and mortality. It also outlines the nurse's role in providing sepsis care.

[Sepsis 2018: Definitions and Guideline Changes.](#)

Napolitano LM.

Surg Infect (Larchmt). 2018 Feb/Mar;19(2):117-125.

New definitions for sepsis and septic shock (Third International Consensus Definitions for Sepsis and Septic Shock [Sepsis-3]) have been developed. A new screening tool for sepsis (quick Sequential Organ Failure Assessment [qSOFA]) has been proposed to predict the likelihood of poor outcome in out-of-intensive care unit (ICU) patients with clinical suspicion of sepsis. The Surviving Sepsis Campaign Guidelines were recently updated and include greater evidence-based recommendations for treatment of sepsis in attempts to reduce sepsis-associated mortality. This review discusses the new Sepsis-3 definitions and guidelines.

[Evidence Underpinning the U.S. Government-Mandated Hemodynamic Interventions for Sepsis: A Systematic Review.](#)

Pepper DJ, Jaswal D, Sun J, Welsh J, Natanson C, Eichacker PQ.

Ann Intern Med. 2018 Feb 20. [Epub ahead of print]

The Severe Sepsis and Septic Shock Early Management Bundle (SEP-1), the sepsis performance measure introduced by the Centers for Medicare & Medicaid Services (CMS), requires up to 5 hemodynamic interventions, as many as 141 tasks, and 3 hours to document for a single patient. Purpose of this study is to evaluate whether moderate- or high-level evidence shows that use of SEP-1 or its hemodynamic interventions improves survival in adults with sepsis.

[qSOFA, SIRS and NEWS for predicting inhospital mortality and ICU admission in emergency admissions treated as sepsis.](#)

Goulden R. et al

Emerg Med J. 2018 Feb 21. pii: emermed-2017-207120. [Epub ahead of print]

The third international consensus definition for sepsis recommended use of a new prognostic tool, the quick Sequential Organ Failure Assessment (qSOFA), based on its ability to predict inhospital mortality and prolonged intensive care unit (ICU) stay in patients with suspected infection. While several studies have compared the prognostic

Sepsis is a leading cause of maternal morbidity and mortality in developed and developing nations. Obstetric practitioners should be familiar with guidelines that promote the safe and expeditious recovery of those affected. This article will provide the reader with rational steps to aid in the recovery of such a patient.

[The diagnostic accuracy of presepsin in neonatal sepsis: a meta-analysis.](#)

Bellos I, et al

Eur J Pediatr. 2018 Feb 23. [Epub ahead of print]

The objective of our study is to investigate current evidence related to the diagnostic accuracy of presepsin in neonatal sepsis. Current evidence support the use of presepsin in the early neonatal period in high-risk populations as its diagnostic accuracy seems to be high in detecting neonatal sepsis.

[The Role of a Single Dose of Vancomycin in Reducing Clinical Sepsis in Premature Infants Prior to Removal of Peripherally Inserted Central Catheter: A Retrospective Study.](#)

Bhargava V, George L, Malloy M, Fonseca R.

Am J Perinatol. 2018 Feb 23. [Epub ahead of print]

Peripherally inserted central catheter (PICC) line removal is associated with bloodstream infections and clinical sepsis. We aim to investigate the role of a single prophylactic dose of vancomycin in decreasing the incidence of central line associated bloodstream infection associated with PICC removal.

[Hypofibrinogenemia Is Associated With Poor Outcome and Secondary Hemophagocytic Lymphohistiocytosis/Macrophage Activation Syndrome in Pediatric Severe Sepsis.](#)

Signoff J.K. et al

Pediatr Crit Care Med. 2018 Feb 21. [Epub ahead of print]

Some children with sepsis exhibit a sustained hyperinflammatory response that can trigger secondary hemophagocytic lymphohistiocytosis/macrophage activation syndrome. Although hypofibrinogenemia is a shared feature of sepsis and hemophagocytic lymphohistiocytosis, there are no data about fibrinogen as a biomarker to identify children with sepsis/secondary hemophagocytic lymphohistiocytosis/macrophage activation syndrome overlap. We hypothesized that hypofibrinogenemia is associated with poor outcomes and secondary hemophagocytic lymphohistiocytosis/macrophage activation syndrome and has utility as a screening biomarker for this sepsis phenotype.

accuracy of qSOFA to the Systemic Inflammatory Response Syndrome (SIRS) criteria in suspected sepsis, few have compared qSOFA and SIRS to the widely used National Early Warning Score (NEWS). This was a retrospective cohort study carried out in a UK tertiary centre. The study population comprised emergency admissions in whom sepsis was suspected and treated. The accuracy for predicting in-hospital mortality and ICU admission was calculated and compared for qSOFA, SIRS and NEWS.

[Guidelines for treatment of sepsis.](#)

Kaspersen ER, Ræder J, Dahl V.

Tidsskr Nor Laegeforen. 2018 Feb 19;138(4).

International and national guidelines for treatment of sepsis are available. In addition, nearly all Norwegian hospitals have prepared their own guidelines for treatment of this condition. The objective of this study was to assess the degree of consistency between local and national guidelines. The majority of the Norwegian hospitals had local guidelines for treatment of sepsis. These local guidelines were largely consistent with the national ones, although there were differences and disagreements associated with certain aspects of the treatment.

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