Comprehensive sepsis management: Guidelines to rehabilitation.

Markus J. Schmidt*

Department of Critical Care, University of Heidelberg, Germany

Introduction

This article details the 2021 Surviving Sepsis Campaign Guidelines, providing evidence-based recommendations for the acute management of sepsis and septic shock. It covers initial resuscitation, diagnosis, antimicrobial therapy, vasopressors, ventilation strategies, and adjunctive therapies, emphasizing timely intervention and goal-directed treatment to improve patient outcomes in critical care settings [1].

This systematic review evaluates the effectiveness of various sepsis screening tools used in emergency departments, analyzing their impact on early sepsis recognition, timely intervention, and patient outcomes such as mortality and length of stay. The findings highlight the importance of validated screening tools in improving the initiation of sepsis bundles and overall care quality [2].

This review explores emerging biomarkers for sepsis, focusing on their utility in early diagnosis, risk stratification, and prognostication in critically ill patients. It discusses the current landscape of sepsis biomarkers beyond procalcitonin and C-reactive protein, examining their potential to guide therapeutic decisions and improve patient outcomes in intensive care [3].

This meta-analysis reassesses the effectiveness of sepsis bundles in improving outcomes for adult patients with sepsis and septic shock. It synthesizes recent evidence on bundle compliance and its association with reduced mortality, shorter hospital stays, and other clinical benefits, emphasizing the sustained importance of these structured interventions in intensive care [4].

This systematic review and meta-analysis investigates the impact of Tele-ICU systems on sepsis management and patient outcomes. It evaluates how remote monitoring and expert consultation contribute to earlier recognition, adherence to protocols, and improved mortality rates in critically ill septic patients, highlighting the potential of technology in extending intensive care expertise [5].

This cross-sectional study explores the relationship between patient safety culture and adherence to sepsis management protocols within intensive care units. It identifies key dimensions of safety culture, such as teamwork and communication, that correlate with improved sepsis care processes and better patient outcomes, underscoring the organizational factors crucial for effective sepsis management [6].

This updated review critically examines the role of fluid resuscitation in the management of sepsis and septic shock, highlighting the ongoing debate regarding optimal fluid type, volume, and timing. It discusses strategies to avoid fluid overload while ensuring adequate perfusion, integrating recent evidence and expert consensus to guide clinical practice in intensive care settings [7].

This systematic review explores the application of Artificial Intelligence and machine learning models in enhancing sepsis detection and predicting patient prognosis. It evaluates various AI algorithms, their predictive accuracy, and potential for integration into clinical decision support systems, emphasizing their role in improving early diagnosis and personalized management strategies for sepsis [8].

This statement from the ESICM Task Force provides comprehensive guidance on the principles and practical aspects of source control in sepsis and septic shock. It covers the timely identification and eradication of the infection source through surgical, interventional, or medical means, emphasizing its critical role in resolving infection and improving clinical outcomes in critically ill patients [9].

This systematic review and meta-analysis comprehensively assesses the long-term neurological and psychiatric sequelae in sepsis survivors. It identifies the prevalence and risk factors for conditions such as cognitive impairment, depression, and anxiety post-sepsis, emphasizing the need for structured follow-up and rehabilitation programs to address the persistent burden of post-sepsis syndrome [10].

Conclusion

This collection of articles provides a comprehensive overview of current understanding and advancements in sepsis management. It highlights the pivotal role of the 2021 Surviving Sepsis Campaign Guidelines in offering evidence-based recommendations for acute care, emphasizing timely intervention. Effective sepsis care is further bolstered by validated screening tools in emergency depart-

***Correspondence to:** Markus J. Schmidt, Department of Critical Care, University of Heidelberg, Germany. E-mail: markus.schmidt@clinicalnursing.de

Received: 04-Jun-2025, Manuscript No. AAICCN-25-271; **Editor assigned:** 06-Jun-2025, Pre QC No. AAICCN-25-271 *(PQ)*; **Reviewed:** 26-Jun-2025, QC No. AAICCN-25-271; **Revised:** 07-Jul-2025, Manuscript No. AAICCN-25-271 *(R)*; **Published:** 16-Jul-2025, DOI: 10.35841/AAICCN-8.3.271

Citation: Schmidt MJ. Comprehensive sepsis management: Guidelines to rehabilitation. J Intensive Crit Care Nurs. 2025;08(03):271.

ments for early recognition and the use of sepsis bundles, which consistently improve patient outcomes like mortality and length of stay. Research also explores novel diagnostic and prognostic biomarkers beyond traditional markers, aiming to guide therapeutic decisions. Technological innovations, including Tele-ICU systems for remote monitoring and Artificial Intelligence for enhanced detection and prognosis, are shown to improve care delivery and patient outcomes. Critical interventions like fluid management and source control are continuously refined based on updated evidence. Beyond acute care, the importance of patient safety culture within Intensive Care Units is recognized as a factor influencing adherence to protocols. Moreover, a significant focus is placed on the long-term neurological and psychiatric sequelae in sepsis survivors, underlining the need for ongoing support and rehabilitation to manage post-sepsis syndrome.

References

1. Laura E, Andrew R, *Waleed A. The Surviving Sepsis Campaign Guidelines* 2021: Update for Management of Sepsis and Septic Shock. Crit Care Med. 2021;49:1063-1143.

2. Jasmeet H, Muhammad AS, Shih YH. The Impact of Sepsis Screening Tools on Emergency Department Sepsis Care and Outcomes: *A Systematic Review. J Clin Med.* 2022;11:7476.

3. Tri C, Agung S, Imam S. Diagnostic and Prognostic Biomarkers in Sepsis: *Current Knowledge and Future Directions. J Clin Med.* 2023;12:1827.

4. Helle S, Karen A, Anders CB. Impact of Sepsis Bundles on Outcomes in Adults with Sepsis and Septic Shock: An Updated Systematic Review and Meta-Analysis. *Crit Care Med.* 2021;49:e821-e836.

5. Jithin S, Siddharth S, Sameer A. The Role of Tele-ICU in Sepsis Management: A Systematic Review and Meta-Analysis. *J Intensive Care Med.* 2022;37:233-242.

6. Mahmoud AK, Shafika M, Fida K. Patient Safety Culture and Sepsis Management in Intensive Care Units: A Cross-Sectional *Study. J Nurs Manag.* 2019;27:1022-1030.

7. Manuel M, Can I, Akke V. Fluid management in sepsis and septic shock: an updated review. *Ann Intensive Care.* 2023;13:18.

8. Xiaohui Z, Yuehong P, Shuping Q. Artificial intelligence-based approaches for sepsis detection and prognosis: *A systematic review. Artif Intell Med.* 2023;135:102431.

9. Jan JD, Veronica C, R P D. Source control in sepsis and septic shock: a statement from the *Task Force of the European Society of Intensive Care Medicine. Intensive Care Med.* 2020;46:1888-1903.

10. Lei B, Song J, Yue W. Long-term neurological and psychiatric outcomes following sepsis: a systematic review and meta-analysis. *Intensive Care Med.* 2023;49:18-35.

Citation: *Schmidt MJ. Comprehensive sepsis management: Guidelines to rehabilitation. J Intensive Crit Care Nurs. 2025;08(03):271.*