Healthcare Improvement Scotland

Sepsis: what does it mean and what does it mean for our patients? subject reading

Evidence and Evaluation for Improvement Team (EEvIT) 06 September 2021

This is a reading list to accompany the SPSP Acute Adult - Deteriorating Patient Webinar on *Sepsis: what does it mean for our patients?* The citation and full-text links for publications on the topic are listed below. The publications have been grouped by: key publications, prevalence of sepsis, long-term impact of sepsis, and sepsis and quality improvement. They are listed in reverse chronological order (newest first).

Key Sepsis publications

UK Sepsis Trust. UK Sepsis Trust: Professional resources [online]. no date [cited 2021 Aug 06]; Available from: https://sepsistrust.org/professional-resources/

Surviving Sepsis Campaign. Surviving Sepsis Campaign: adult patients [online]. no date [cited 2021 Aug 06]; Available from: <u>https://www.sccm.org/SurvivingSepsisCampaign/Guidelines/Adult-Patients</u>

National Institute for Health and Care Excellence. Sepsis. 2020 [cited 2021 Aug 06]; Available from: https://cks.nice.org.uk/topics/sepsis/

Seymour CW, Liu VX, Iwashyna TJ, Brunkhorst FM, Rea TD, Scherag A, et al. <u>Assessment of Clinical Criteria for Sepsis: For</u> the Third International Consensus Definitions for Sepsis and Septic Shock (Sepsis-3). JAMA. 2016;315(8):762-74.

Singer M, Deutschman CS, Seymour CW, Shankar-Hari M, Annane D, Bauer M, et al. <u>The Third International Consensus</u> <u>Definitions for Sepsis and Septic Shock (Sepsis-3)</u>. JAMA. 2016;315(8):801-10.

Shankar-Hari M, Phillips GS, Levy ML, Seymour CW, Liu VX, Deutschman CS, *et al.* <u>Developing a New Definition and</u> <u>Assessing New Clinical Criteria for Septic Shock: For the Third International Consensus Definitions for Sepsis and Septic</u> <u>Shock (Sepsis-3)</u>. JAMA. 2016;315(8):775-87.

National Institute for Health and Care Excellence. Sepsis: recognition, diagnosis and early management. 2016 [cited 2021 Aug 06]; Available from: <u>https://www.nice.org.uk/guidance/ng51/resources/sepsis-recognition-diagnosis-and-early-management-pdf-1837508256709</u>

Scottish Intercollegiate Guidelines Network. Care of deteriorating patients. 2014 [cited 2021 Aug 06]; Available from: https://www.sign.ac.uk/media/1077/sign139.pdf

Prevalence of Sepsis

Chiu C, Legrand M. Epidemiology of sepsis and septic shock. Curr Opin Anaesthesiol. 2021;34(2):71-6.

Shappell CN, Klompas M, Rhee C. <u>Surveillance Strategies for Tracking Sepsis Incidence and Outcomes</u>. J Infect Dis. 2020;222(Suppl 2):S74-S83.

Markwart R, Saito H, Harder T, Tomczyk S, Cassini A, Fleischmann-Struzek C, *et al.* <u>Epidemiology and burden of sepsis</u> <u>acquired in hospitals and intensive care units: a systematic review and meta-analysis</u>. Intensive Care Med. 2020;46(8):1536-51.

Fleischmann-Struzek C, Mellhammar L, Rose N, Cassini A, Rudd KE, Schlattmann P, *et al.* <u>Incidence and mortality of</u> <u>hospital- and ICU-treated sepsis: results from an updated and expanded systematic review and meta-analysis</u>. Intensive Care Med. 2020;46(8):1552-62. Luhr R, Cao Y, Soderquist B, Cajander S. <u>Trends in sepsis mortality over time in randomised sepsis trials: a systematic literature review and meta-analysis of mortality in the control arm, 2002-2016</u>. Crit Care. 2019;23(1):241.

Kopczynska M, Sharif B, Cleaver S, Spencer N, Kurani A, Lee C, et al. <u>Sepsis-related deaths in the at-risk population on the</u> wards: attributable fraction of mortality in a large point-prevalence study. BMC Res Notes. 2018;11(1):720.

Shankar-Hari M, Harrison DA, Rubenfeld GD, Rowan K. <u>Epidemiology of sepsis and septic shock in critical care units:</u> <u>comparison between sepsis-2 and sepsis-3 populations using a national critical care database</u>. Br J Anaesth. 2017;119(4):626-36.

Long-term impact of Sepsis

Shankar-Hari M, Saha R, Wilson J, Prescott HC, Harrison D, Rowan K, et al. <u>Rate and risk factors for rehospitalisation in</u> sepsis survivors: systematic review and meta-analysis. Intensive Care Med. 2020;46(4):619-36.

Shankar-Hari M, Rubenfeld GD, Ferrando-Vivas P, Harrison DA, Rowan K. <u>Development, Validation, and Clinical Utility</u> <u>Assessment of a Prognostic Score for 1-Year Unplanned Rehospitalization or Death of Adult Sepsis Survivors</u>. JAMA Netw Open. 2020;3(9):e2013580.

Gritte RB, Souza-Siqueira T, Curi R, Machado MCC, Soriano FG. <u>Why Septic Patients Remain Sick After Hospital Discharge?</u> Front Immunol. 2020;11:605666.

Mostel Z, Perl A, Marck M, Mehdi SF, Lowell B, Bathija S, et al. <u>Post-sepsis syndrome - an evolving entity that afflicts</u> survivors of sepsis. Mol Med. 2019;26(1):6.

Bell L. <u>Caring for Patients With Sepsis: Understanding Long-term Outcomes</u>. Am J Crit Care. 2019;28(6):433.

Taito S, Taito M, Banno M, Tsujimoto H, Kataoka Y, Tsujimoto Y. <u>Rehabilitation for patients with sepsis: A systematic</u> review and meta-analysis. PloS one. 2018;13(7):e0201292.

Prescott HC, Costa DK. Improving Long-Term Outcomes After Sepsis. Crit Care Clin. 2018;34(1):175-88.

Prescott HC, Angus DC. Enhancing Recovery From Sepsis: A Review. JAMA. 2018;319(1):62-75.

Yende S, Austin S, Rhodes A, Finfer S, Opal S, Thompson T, *et al.* <u>Long-Term Quality of Life Among Survivors of Severe</u> <u>Sepsis: Analyses of Two International Trials</u>. Crit Care Med. 2016;44(8):1461-7.

Delano MJ, Ward PA. <u>The immune system's role in sepsis progression, resolution, and long-term outcome</u>. Immunol Rev. 2016;274(1):330-53.

Sepsis and Quality Improvement

Uffen JW, Oosterheert JJ, Schweitzer VA, Thursky K, Kaasjager HAH, Ekkelenkamp MB. <u>Interventions for rapid recognition</u> and treatment of sepsis in the emergency department: a narrative review. Clin Microbiol Infect. 2021;27(2):192-203.

Lin Y. <u>Effectiveness of the sepsis six bundle in the management of acute adult sepsis in the UK</u>. Emerg Nurse. 2021;29(2):26-9.

Arberry J, Henry Z, Corrah T. <u>A simple measure to improve sepsis documentation and coding</u>. Clin Med. 2021;21(3):222-5.

Hunton R. Seeking a balanced approach to implementing sepsis guidelines. JAAPA. 2020;33(7):13-7.

Honeyford K, Cooke GS, Kinderlerer A, Williamson E, Gilchrist M, Holmes A, *et al.* <u>Evaluating a digital sepsis alert in a</u> <u>London multisite hospital network: a natural experiment using electronic health record data</u>. J Am Med Inform Assoc. 2020;27(2):274-83.

Bloos F. The importance of a hospital-dedicated sepsis response team. Expert Rev Anti Infect Ther. 2020;18(12):1235-43.

NHS England. Gloucestershire Hospitals NHS FT Improving initial sepsis management. 2019 [cited 2021 Aug 06]; Available from: <u>https://www.england.nhs.uk/wp-content/uploads/2019/01/sepsis-case-study-gloucestershire-hospitals.pdf</u>

Gallagher K, Blackwell N, Thomas B, Trail M, Stewart L, Paterson R. <u>Successful prospective quality improvement</u> programme for the identification and management of patients at risk of sepsis in hospital. BMJ Open Qual. 2019;8(2):e000369.

Warttig S, Alderson P, Evans DJ, Lewis SR, Kourbeti IS, Smith AF. <u>Automated monitoring compared to standard care for</u> <u>the early detection of sepsis in critically ill patients</u>. Cochrane Database Syst Rev. 2018;6:CD012404.

Nsutebu EF, Ibarz-Pavon AB, Kanwar E, Prospero N, French N, McGrath C. <u>Advancing quality in sepsis management: a</u> <u>large-scale programme for improving sepsis recognition and management in the North West region of England</u>. Postgrad Med J. 2018;94(1114):463-8.

NHS England. Royal Cornwall Hospital improving sepsis screening and treatment. 2018 [cited 2021 Aug 06]; Available from: https://www.england.nhs.uk/wp-content/uploads/2018/11/sepsis-case-study-royal-cornwall-hospital.pdf

NHS England. Improvement in early detection and prompt treatment of sepsis across Weston Area Health NHS Trust [online]. 2018 [cited 2021 Aug 06]; Available from: <u>https://www.england.nhs.uk/atlas_case_study/improvement-in-early-detection-and-prompt-treatment-of-sepsis-across-weston-area-health-nhs-trust/</u>

NHS England. Reducing sepsis at James Paget University Hospital [online]. 2018 [cited 2021 Aug 06]; Available from: https://www.england.nhs.uk/atlas_case_study/reducing-sepsis-at-james-paget-university-hospital/

UK National Surgical Research Collaborative. <u>Multicentre observational study of adherence to Sepsis Six guidelines in</u> <u>emergency general surgery</u>. Br J Surg. 2017;104(2):e165-e71.

Hancock C. <u>A national quality improvement initiative for reducing harm and death from sepsis in Wales</u>. Intensive Crit Care Nurs. 2015;31(2):100-5.

Marwick CA, Guthrie B, Pringle JEC, Evans JMM, Nathwani D, Donnan PT, *et al.* <u>A multifaceted intervention to improve</u> <u>sepsis management in general hospital wards with evaluation using segmented regression of interrupted time series</u>. BMJ Qual Saf. 2014;23(12):e2.