

# Sepsis

## EVIDENCE REPOSITORIES

Evidence repositories are collections of best available resources and evidence (clinical guidelines, peer reviewed literature, systematic reviews, etc.), collated by our knowledge synthesis team and content advisors. This evidence repository is not intended to be an exhaustive list of resources for a topic, but rather a curated list of current, evidence-based resources, based on expert consensus of relevance and usability for a general emergency department setting. We search databases (Cochrane Library, PubMed, TRIP Database) and web search engines (Google, Google Scholar) to locate evidence. Additionally, hospital websites are browsed for guidance documents, such as clinical practice guidelines (CPG) for healthcare professionals.

Every effort is made to identify resources that are open access (i.e. publicly available, free of charge, not requiring a subscription).

More information about the creation of our evidence repositories can be found at <https://pubmed.ncbi.nlm.nih.gov/28537762/>

## CONTENT TEAM

Thank you to the following content experts and Knowledge Synthesis team who led the development of this evidence repository.

### **Graham Thompson, MD, FRCPC**

Assistant Professor, Department of Paediatrics, Alberta Children's Hospital Research Institute  
University of Calgary, Faculty of Medicine

### **Mona Jabbour, MD, FRCPC**

Chief of the Department of Pediatrics, Children's Hospital of Eastern Ontario  
Associate Professor in the Department of Pediatrics, University of Ottawa

TREKK developed resources for healthcare providers and parents & families can be found [here](#).

### Clinical Guidelines

1. Jefferies AL. [Management of term infants at increased risk for early-onset bacterial sepsis](#). Paediatr Child Health. 2017;22(4):223-8.
2. Kissoon N, Orr RA, Carcillo JA. [Updated American college of critical care medicine--pediatric advanced life support guidelines for management of pediatric and neonatal septic shock: Relevance to the emergency care clinician](#). Pediatr Emerg Care. 2010;26(11):867-9.

### Systematic Reviews

1. Wacker C, Prkno A, Brunkhorst FM, Schlattmann P. [Procalcitonin as a diagnostic marker for sepsis: A systematic review and meta-analysis](#). Lancet Infect Dis. 2013;13(5):426-35.
2. Alejandria MM, Lansang MA, Dans LF, Mantaring JB, 3rd. [Intravenous immunoglobulin for treating sepsis, severe sepsis and septic shock](#). Cochrane Database Syst Rev. 2013;2013(9):Cd001090.
3. Yo CH, Hsieh PS, Lee SH, et al. [Comparison of the test characteristics of procalcitonin to c-reactive protein and leukocytosis for the detection of serious bacterial infections in children presenting with fever without source: A systematic review and meta-analysis](#). Ann Emerg Med. 2012;60(5):591-600.
4. Martí-Carvajal AJ, Solà I, Gluud C, et al. [Human recombinant protein c for severe sepsis and septic shock in adult and paediatric patients](#). Cochrane Database Syst Rev. 2012;12(12):Cd004388.
5. Rivers EP, Coba V, Whitmill M. [Early goal-directed therapy in severe sepsis and septic shock: A contemporary review of the literature](#). Curr Opin Anaesthesiol. 2008;21(2):128-40.

### Key Studies

1. Reed L, Carroll J, Cummings A, et al. [Serum lactate as a screening tool and predictor of outcome in pediatric patients presenting to the emergency department with suspected infection](#). Pediatr Emerg Care. 2013;29(7):787-91.
2. Nijman RG, Vergouwe Y, Thompson M, et al. [Clinical prediction model to aid emergency doctors managing febrile children at risk of serious bacterial infections: Diagnostic study](#). BMJ. 2013;346:f1706.
3. Scott HF, Donoghue AJ, Gaijeski DF, et al. [The utility of early lactate testing in undifferentiated pediatric systemic inflammatory response syndrome](#). Acad Emerg Med. 2012;19(11):1276-80.
4. Cruz AT, Williams EA, Graf JM, et al. [Test characteristics of an automated age- and temperature-adjusted tachycardia alert in pediatric septic shock](#). Pediatr Emerg Care. 2012;28(9):889-94.
5. Zimmerman JJ, Williams MD. [Adjunctive corticosteroid therapy in pediatric severe sepsis: Observations from the resolve study](#). Pediatr Crit Care Med. 2011;12(1):2-8.

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6. Verhoeven JJ, den Brinker M, Hokken-Koelega AC, et al. [Pathophysiological aspects of hyperglycemia in children with meningococcal sepsis and septic shock: A prospective, observational cohort study](#). Crit Care. 2011;15(1):R44.
7. Larsen GY, Mecham N, Greenberg R. [An emergency department septic shock protocol and care guideline for children initiated at triage](#). Pediatrics. 2011;127(6):e1585-92.
8. Karam O, Tucci M, Ducruet T, et al. [Red blood cell transfusion thresholds in pediatric patients with sepsis](#). Pediatr Crit Care Med. 2011;12(5):512-8.
9. Cruz AT, Perry AM, Williams EA, et al. [Implementation of goal-directed therapy for children with suspected sepsis in the emergency department](#). Pediatrics. 2011;127(3):e758-66.
10. Brent AJ, Lakhanpaul M, Ninis N, et al. [Evaluation of temperature-pulse centile charts in identifying serious bacterial illness: Observational cohort study](#). Arch Dis Child. 2011;96(4):368-73.
11. Thompson M, Coad N, Harnden A, et al. [How well do vital signs identify children with serious infections in paediatric emergency care?](#) Arch Dis Child. 2009;94(11):888-93.
12. Inwald DP, Tasker RC, Peters MJ, Nadel S. [Emergency management of children with severe sepsis in the United Kingdom: The results of the paediatric intensive care society sepsis audit](#). Arch Dis Child. 2009;94(5):348-53.
13. Davies P, Maconochie I. [The relationship between body temperature, heart rate and respiratory rate in children](#). Emerg Med J. 2009;26(9):641-3.
14. Choong K, Bohn D, Fraser DD, et al. [Vasopressin in pediatric vasodilatory shock: A multicenter randomized controlled trial](#). Am J Respir Crit Care Med. 2009;180(7):632-9.
15. Sprung CL, Annane D, Keh D, et al. [Hydrocortisone therapy for patients with septic shock](#). N Engl J Med. 2008;358(2):111-24.
16. Trzeciak S, Dellinger RP, Chansky ME, et al. [Serum lactate as a predictor of mortality in patients with infection](#). Intensive Care Med. 2007;33(6):970-7.
17. Stoner MJ, Goodman DG, Cohen DM, et al. [Rapid fluid resuscitation in pediatrics: Testing the American college of critical care medicine guideline](#). Ann Emerg Med. 2007;50(5):601-7.
18. Upadhyay M, Singhi S, Murlidharan J, et al. [Randomized evaluation of fluid resuscitation with crystalloid \(saline\) and colloid \(polymer from degraded gelatin in saline\) in pediatric septic shock](#). Indian Pediatr. 2005;42(3):223-31.
19. Goldstein B, Giroir B, Randolph A. [International pediatric sepsis consensus conference: Definitions for sepsis and organ dysfunction in pediatrics](#). Pediatr Crit Care Med. 2005;6(1):2-8.
20. Han YY, Carcillo JA, Dragotta MA, et al. [Early reversal of pediatric-neonatal septic shock by community physicians is associated with improved outcome](#). Pediatrics. 2003;112(4):793-9.

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21. Rivers E, Nguyen B, Havstad S, et al. [Early goal-directed therapy in the treatment of severe sepsis and septic shock](#). N Engl J Med. 2001;345(19):1368-77.
22. Carcillo JA, Davis AL, Zaritsky A. [Role of early fluid resuscitation in pediatric septic shock](#). JAMA. 1991;266(9):1242-5.

## Other Resources

1. Faculty Development Dalhousie Medicine. [VIDEO: Sepsis in Kids](#). 2020.
2. Reid S, Neto G. [Emergency Medicine Cases Podcast: Recognition and management of pediatric sepsis and septic shock](#). 2014.