

## EVIDENCE REPOSITORIES

This evidence repository is a collection of best available resources and evidence collated by a knowledge synthesis team at Alberta Research for Health Evidence ([ARCHE](#)) and the clinical content team.

The knowledge synthesis team utilizes a pyramid-shaped framework, built upon the [“4S” hierarchy of evidence model](#), to provide detailed evidence appropriate to meet stakeholders’ needs. They search a combination of databases (Cochrane Library, PubMed, TRIP Database) and web-based search engines (Google, Google Scholar) to locate evidence for the knowledge pyramids. Publication types sought in the initial topic searches are organized into five levels that determine the order in which resources are presented:

- (1) Bottom Line Recommendations
- (2) Clinical Practice Guidelines and Pathways
- (3) Overviews and Summaries of Systematic Reviews
- (4) Systematic Reviews
- (5) Key Studies

Where applicable resources for families and parents are also listed.

The knowledge synthesis team collaborates with the clinical content team to select the most relevant guidelines, reviews, and key studies, which can be found below. 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. 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 [here](#).

## CONTENT TEAM

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

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

## Clinical Practice Guidelines and Pathways

1. Pressler RM, Abend NS, Auvin S, et al. [Treatment of seizures in the neonate: Guidelines and consensus-based recommendations-special report from the ILAE task force on neonatal seizures](#). Epilepsia. 2023;64(10):2550-70.
2. Smith HAB, Besunder JB, Betters KA, et al. [2022 Society of Critical Care Medicine clinical practice guidelines on prevention and management of pain, agitation, neuromuscular blockade, and delirium in critically ill pediatric patients with consideration of the ICU environment and early mobility](#). Pediatr Crit Care Med. 2022;23(2):e74-e110.
3. Singh Y, Tissot C, Fraga MV, et al. [International evidence-based guidelines on Point of Care Ultrasound \(POCUS\) for critically ill neonates and children issued by the POCUS working group of the European Society of Paediatric and Neonatal Intensive Care \(ESPNIC\)](#). Crit Care. 2020;24(1):65.
4. The Royal Children's Hospital Melbourne. [Clinical practice guidelines: Recognition of the seriously unwell neonate and young infant](#). 2019.
5. Thornton PS, Stanley CA, De Leon DD, et al. [Recommendations from the pediatric endocrine society for evaluation and management of persistent hypoglycemia in neonates, infants, and children](#). J Pediatr. 2015;167(2):238-45.

## Systematic Reviews and Other Reviews

1. Valla FV, Tume LN, Jotterand Chaparro C, et al. [Gastric point-of-care ultrasound in acutely and critically ill children \(POCUS-ped\): A scoping review](#). Front Pediatr. 2022;10:921863.
2. Menon K, Schlapbach LJ, Akech S, et al. [Criteria for pediatric sepsis-a systematic review and meta-analysis by the pediatric sepsis definition taskforce](#). Crit Care Med. 2022;50(1):21-36.
3. Brossier DW, Tume LN, Briant AR, et al. [Espnic clinical practice guidelines: Intravenous maintenance fluid therapy in acute and critically ill children- a systematic review and meta-analysis](#). Intensive Care Med. 2022;48(12):1691-708.
4. Akre S, Sharma K, Chakole S, et al. [Gastrointestinal emergencies in neonates: A review article](#). Cureus. 2022;14(10):e30538.
5. Haydar B, Baetzel A, Elliott A, et al. [Adverse events during intrahospital transport of critically ill children: A systematic review](#). Anesth Analg. 2020;131(4):1135-45.

## Key Studies

1. Schoppel K, Spector J, Okafor I, et al. [Gaps in pediatric emergency medicine education of emergency medicine residents: A needs assessment of recent graduates](#). AEM Educ Train. 2023;7(6):e10918.
2. Prekker ME, Bjorklund AR, Myers C, et al. [The pediatric bougie for the first tracheal intubation attempt in critically ill children](#). Ann Emerg Med. 2023;81(6):667-76.
3. Pawlowski TW, Polidoro R, Fraga MV, et al. [Point-of-care ultrasound for non-vascular invasive](#)

Visit [TREKK.ca](https://www.trekk.ca) for more resources related to pediatric emergency care



- [procedures in critically ill neonates and children: Current status and future perspectives](#). Eur J Pediatr. 2023.
- Newgard CD, Lin A, Malveau S, et al. [Emergency department pediatric readiness and short-term and long-term mortality among children receiving emergency care](#). JAMA Netw Open. 2023;6(1):e2250941.
  - Newgard CD, Lin A, Goldhaber-Fiebert JD, et al. [Association of emergency department pediatric readiness with mortality to 1 year among injured children treated at trauma centers](#). JAMA Surg. 2022;157(4):e217419.
  - Lieng MK, Marcin JP, Sigal IS, et al. [Association between emergency department pediatric readiness and transfer of noninjured children in small rural hospitals](#). J Rural Health. 2022;38(1):293-302.
  - Kothari SY, Haynes SC, Sigal I, et al. [Resources for improving pediatric readiness and quality of care in rural communities and emergency departments](#). Pediatr Emerg Care. 2022;38(3):e1069-e74.
  - Giri S, Watts M, LeVine S, et al. [Characteristics and outcomes of patients triaged as critically ill in the emergency department of a tertiary care hospital in Bhutan](#). Int J Emerg Med. 2022;15(1):64.
  - Cunningham KM, Walsh JM, Beattie TF, et al. [Neonatal emergency transport teams and general emergency departments: Who will intubate the neonate?](#) Emerg Med Australas. 2022;34(2):285-7.
  - Baker AH, Monuteaux MC, Eisenberg MA, et al. [Pediatric sepsis survival in pediatric and general emergency departments](#). Am J Emerg Med. 2022;51:53-7.
  - Aregbesola A, Florescu O, Tam C, et al. [Evaluation of baseline pediatric readiness of emergency departments in Manitoba, Canada](#). Int J Emerg Med. 2022;15(1):58.
  - Simma L, Stocker M, Lehner M, et al. [Critically ill children in a swiss pediatric emergency department with an interdisciplinary approach: A prospective cohort study](#). Front Pediatr. 2021;9:721646.
  - Newgard CD, Lin A, Olson LM, et al. [Evaluation of emergency department pediatric readiness and outcomes among us trauma centers](#). JAMA Pediatr. 2021;175(9):947-56.
  - Lieng MK, Marcin JP, Dayal P, et al. [Emergency department pediatric readiness and potentially avoidable transfers](#). J Pediatr. 2021;236:229-37.e5.
  - Aichhorn L, Küng E, Habrina L, et al. [The role of lung ultrasound in the management of the critically ill neonate-a narrative review and practical guide](#). Children (Basel). 2021;8(8).
  - Narvey MR, Marks SD. [The screening and management of newborns at risk for low blood glucose](#). Paediatr Child Health. 2019;24(8):536-54.
  - Ames SG, Davis BS, Marin JR, et al. [Emergency department pediatric readiness and mortality in critically ill children](#). Pediatrics. 2019;144(3).
  - Mahle WT, Newburger JW, Matherne GP, et al. [Role of pulse oximetry in examining newborns for congenital heart disease: A scientific statement from the AHA and AAP](#). Pediatrics. 2009;124(2):823-36.
  - Kim O, Brousseau DC, Konduri GG. [Evaluation and management of the critically ill neonate in the emergency department](#). Clinical Pediatric Emergency Medicine. 2008;9(3):140-8.
  - Diwakar KK, Sasidhar MV. [Plasma glucose levels in term infants who are appropriate size for gestation and exclusively breast fed](#). Arch Dis Child Fetal Neonatal Ed. 2002;87(1):F46-8.



21. Kramer MS, Platt RW, Wen SW, et al. [A new and improved population-based Canadian reference for birth weight for gestational age](#). Pediatrics. 2001;108(2):E35.
22. Lubchenco LO, Bard H. [Incidence of hypoglycemia in newborn infants classified by birth weight and gestational age](#). Pediatrics. 1971;47(5):831-8.
23. Cornblath M, Reisner SH. [Blood glucose in the neonate and its clinical significance](#). N Engl J Med. 1965;273(7):378-81.

## Other Resources

1. Rozance PJ. [Management and outcome of neonatal hypoglycemia](#). UpToDate. 2024.
2. Leon-Crutchlow DD, Lord K. [Approach to hypoglycemia in infants and children](#). UpToDate. 2024.
3. Canadian Paediatric Society. [Neonatal resuscitation program](#). 2023.
4. The Royal Children's Hospital Melbourne. [Hypoglycaemia](#). 2019.
5. Canadian Paediatric Society. [Management of hypoglycemia - algorithm](#).