



EXCELLENCE IN PREHOSPITAL INJURY CARE IN MONTANA (EPIC-MT) for Traumatic Brain Injury

Traumatic Brain Injury in Montana:

- Each year, over 300 Montanans die from TBI and another 800 are hospitalized.
- Nationally, TBI leads to 2.2 million emergency department visits, 280,000 hospitalizations, and 52,000 deaths.
- Montana has an elevated injury and death rate from TBI compared to the nation.

What is EPIC-MT?

- EPIC is an evidence-based treatment protocol and quality improvement initiative for treatment of patients with TBI.
- Demonstrated that EMS care can dramatically improve survival.
- In adults, implementation of the EPIC Guidelines was independently associated with a **doubling** of the adjusted odds of survival in severe TBI and a **tripling** in survival with severe, intubated TBI.
- In pediatric patients, use of EPIC was associated with a **five-fold** increase in adjusted odds of survival in severe TBI (whether or not intubated) and a **seven-fold** increase in survival for patients receiving positive pressure ventilation.

Research

JAMA Surgery | Original Investigation

Association of Statewide Implementation of the Prehospital Traumatic Brain Injury Treatment Guidelines With Patient Survival Following Traumatic Brain Injury The Excellence in Prehospital Injury Care (EPIC) Study

Daniel W. Spaite, MD; Bentley J. Bobrow, MD; Samuel M. Keim, MD, MS; Bruce Barnhart, RN, CEP; Vatsal Chikani, MPH; Joshua B. Gaither, MD; Duane Sherrill, PhD; Kurt R. Denninghoff, MD; Terry Mullins, MPH, MBA; P. David Adelson, MD; Amber D. Rice, MD, MS; Chad Viscusi, MD; Chengcheng Hu, PhD

Supplemental content

IMPORTANCE Traumatic brain injury (TBI) is a massive public health problem. While evidence-based guidelines directing the prehospital treatment of TBI have been promulgated, to our knowledge, no studies have assessed their association with survival.

OBJECTIVE To evaluate the association of implementing the nationally vetted, evidence-based, prehospital treatment guidelines with outcomes in moderate, severe, and critical TBI.

PEDIATRICS/ORIGINAL RESEARCH

Effect of Implementing the Out-of-Hospital Traumatic Brain Injury Treatment Guidelines: The Excellence in Prehospital Injury Care for Children Study (EPIC4Kids)

Joshua B. Gaither, MD¹; Daniel W. Spaite, MD; Bentley J. Bobrow, MD; Samuel M. Keim, MD, MS; Bruce J. Barnhart, MSN, CEP; Vatsal Chikani, MPH; Duane Sherrill, PhD; Kurt R. Denninghoff, MD; Terry Mullins, MPH, MBA; P. David Adelson, MD; Amber D. Rice, MD, MS; Chad Viscusi, MD; Chengcheng Hu, PhD

¹Corresponding Author. E-mail: jgaither@bcmc.arizona.edu.

Study objective: We evaluate the effect of implementing the out-of-hospital pediatric traumatic brain injury guidelines on outcomes in children with major traumatic brain injury.

Methods: The Excellence in Prehospital Injury Care for Children study is the preplanned secondary analysis of the Excellence in Prehospital Injury Care study, a multisystem, intention-to-treat study using a before-after controlled design. This subanalysis included children younger than 18 years who were transported to Level I trauma centers by participating out-of-hospital agencies between January 1, 2007, and June 30, 2015, throughout Arizona. The primary and secondary outcomes were survival to hospital discharge or admission for children with major traumatic brain injury and in 3 subgroups, defined a priori as those with moderate, severe, and critical traumatic brain injury. Outcomes in the preimplementation and postimplementation cohorts were compared with baseline, nonimplementation, and intervention for each outcome and model outcome.

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Contact your EPIC-MT Coordinators:

Kristin Costa

kristin.costa@mt.gov

406.444.1310

Nicole Steeneken

nicole.steeneken@mt.gov

406.444.2480

