Preventing Unplanned Perioperative Hypothermia in Children 2.2 CE

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SUSAN E. BEEDLE, MSN, RN, CPN; AMY PHILLIPS, MSN, APRN-CNS, CCRN; SHIRLEY WIGGINS, PhD, RN; LEEZA STRUWE, PhD, MSN, RN

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Purpose/Goal

To provide the learner with knowledge of best practices related to hypothermia in the pediatric surgical population.

Objectives

1. Describe the risk factors, adverse outcomes, and incidence of unplanned perioperative hypothermia.
2. Compare unplanned perioperative hypothermia in the adult surgical population with that in the pediatric surgical population.
3. Discuss the methods and results of this study, which measures the incidence of unplanned hypothermia in a pediatric surgical population after the implementation of a clinical practice guideline.

Accreditation

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Conflict-of-Interest Disclosures

Susan E. Beedle, MSN, RN, CPN; Amy Phillips, MSN, APRN-CNS, CCRN; Shirley Wiggins, PhD, RN; and Leeza Struwe, PhD, MSN, RN, have no declared affiliations that could be perceived as posing potential conflicts of interest in the publication of this article.

The behavioral objectives for this program were created by Kristi Van Anderson, BSN, RN, CNOR, clinical editor, with consultation from Susan Bakewell, MS, RN-BC, director, Perioperative Education. Ms Van Anderson and Ms Bakewell have no declared affiliations that could be perceived as posing potential conflicts of interest in the publication of this article.

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SUSAN E. BEEDLE, *MSN, RN, CPN*; **AMY PHILLIPS,** *MSN, APRN-CNS, CCRN*; **SHIRLEY WIGGINS,** *PhD, RN*; **LEEZA STRUWE,** *PhD, MSN, RN*

ABSTRACT

Unplanned perioperative hypothermia is a common surgical risk. Unplanned hypothermia is defined as a body temperature below 36° C (96.8° F) during any phase of the perioperative period. Perioperative nurses at a Midwestern tertiary pediatric hospital developed an evidence-based clinical practice guideline (CPG) designed to maintain normothermia for the pediatric surgical population. This CPG outlined standard thermoregulation nursing interventions and required the consistent use of a temporal artery thermometer. A test of this CPG before full implementation established a baseline incidence of unplanned hypothermia at 16.3% (n = 80). The purpose of this study was to measure the rate of perioperative hypothermia in children after implementing the evidence-based CPG. The study results demonstrated that the CPG, guiding research-based nursing practice, consistently prevented unplanned hypothermia. The incidence rate of unplanned perioperative hypothermia after CPG implementation was 1.84% (n = 1,196). *AORN J* 105 *(February 2017) 170-183. © AORN, Inc, 2017. http://dx.doi.org/10.1016/j.aorn.2016.12.002*

Key words: *unplanned hypothermia, pediatric, thermoregulation, perianesthesia nursing, clinical practice guideline.*

The quality of care and safety of children undergoing surgery are ever-present concerns in the perioperative clinical area. Unplanned hypothermia can contribute to surgical complications including surgical site infections, increased need for oxygen, altered pharmacokinetics of medications, impaired coagulation, and cardiac arrhythmias.[1-3] Perioperative nurses at a Midwestern tertiary pediatric hospital noticed an increase in unplanned hypothermia in children and initiated a quality improvement (QI) project to address this concern. Using an evidence-based practice approach, our team concluded that consistent nursing care and interventions were needed to prevent unplanned hypothermia for all children undergoing surgery. The QI team's synthesis of the evidence and analysis of the literature, including the American Society of PeriAnesthesia Nurses' and AORN's guidelines for the prevention of unplanned hypothermia,[4,5] resulted in a pediatric clinical practice guideline (CPG) focused on maintaining perioperative normothermia.

We concluded our QI project with a month-long test of our CPG. This test was conducted after a basic introduction of the CPG to staff members in addition to the request that they use either temporal or tympanic temperature measurement consistently for each child. The results of the test of our CPG established a baseline rate of 16.3% (n = 80) of children who developed unplanned perioperative hypothermia when temperatures were measured by a consistent method.

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