

Surgical Normothermia; Achieving the Triple Aim

Primary Investigator: Dawnmarie Devito MSN-ED RN CPAN

Robert Wood Johnson University Hospital, New Brunswick, New Jersey

Co-Investigators: Michele Dickson BSN RN CAPA, Susan Elliott BSN RN, Karin Graulich MSN RN,
Danuta Niewinska BSN RN, Jennifer Pirozzi BSN RN CNOR

Introduction: Unplanned hypothermia is a common complication of surgery and can lead to serious complications. An effective way to maintain normothermia is through pre-warming.

Identification of the problem: Our organization experienced a lack of pre-warming for hypothermia prevention. There is a vast but diverse amount of evidenced based intervention for unplanned hypothermia prevention. This immense and somewhat conflicting information can pose a challenge for organizations when deciding what is the most optimal as well as practical method to prevent unplanned hypothermia. After comprehensive review of literature and professional practice guidelines it was found that hypothermia prevention can be achieved by both passive and active pre-warming methods. In addition to seeking quality clinical care logistics and cost effectiveness are also a consideration.

Purpose: The aim of this project was to evaluate diverse approaches to hypothermia prevention to determine which was most aligned with achieving high quality, cost containment, and improved population health.

Methods: A pilot project was conducted to test the feasibility and usefulness of both pre-warming methods. The project was conducted in all perioperative departments.. Passive pre-warming was provided using a warmed cotton blanket with a sheet on top, head covering, socks, and patient education. Active pre-warming was obtained with use of forced warm air Bair Paws Gown device and patient education. Sample population included all patients having colorectal or hysterectomy procedures. The sample population was evenly divided so that half received passive pre-warming and the other half received active pre-warming. A data collection tool was developed. All perioperative staff was educated and in-serviced on each method including equipment.

Outcomes: After collecting data for a one month period our final sample size was N=30. 12 received passive pre-warming and 18 received active pre-warming. Data analysis showed that there was not a significant change in the mean body temperature from data point SDS admission and OR arrival. When compared to baseline data using either passive or active methods, both yielded good normothermia maintenance with necessitates intervention.

Conclusion: After analyzing the data it was decided that there was not enough clinical benefit related to superiority in pre-warming for hypothermia prevention, when comparing passive and active methods. The cost of the active warming Bair Paws Gown device is significantly higher than the passive warming supplies, and logistically the passive pre warming can be easily implemented as these resources currently exist.

Implications for the perianesthesia nurses and future research: Ongoing research is needed for new methods to maintain Normothermia in the surgical patient.