

INTRAOPERATIVE HYPOTHERMIA: EFFECTS OF PRE-WARMING USING FORCED-AIR WARMING IN COLORECTAL SURGERY

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Introduction: Perioperative hypothermia (core temperature less than 96°F) has been linked to adverse myocardial outcomes, surgical site infections (SSI), bleeding, and increased length of hospital stay.

Identification of the problem: ASPAN guidelines recommend pre-warming to decrease redistribution hypothermia occurring after induction of anesthesia. Currently, patients undergoing surgery are not pre-warmed. Systematic reviews conducted on the effectiveness of pre-warming suggested forced-air warming as an effective method to decrease perioperative hypothermia.

EP Question/Purpose: Does using forced-air warming in the pre-operative area decrease intraoperative hypothermia in patients undergoing colorectal surgeries?

Method/Evidence: Plan- A guideline for pre-warming patients was developed based on literature review, and was approved by the colorectal SSI prevention team. Do- The nurses were educated on the guideline. The test of change was implemented in the pre-operative unit starting June 2016 to December 2016. Study- Compliance was ensured through direct observation and documentation review. Education was reinforced when non-compliance was observed. Act- The data was extracted from EHR for patients who developed intraoperative hypothermia (two or more intraoperative hypothermic temperature readings) and compared to the pre-implementation phase.

Significance of Findings/Outcomes: Patients with intra-op T<95°F decreased to 3% from 19%, and the patients without intra-op hypothermia improved to 52% from 30% after pre-warming. However, there were no changes in patients with intra-op T 95.1 - 96.8°F, which can be attributed to more patient's shifting from T< 95 to T> 95.1°F after pre-warming.

Implications for perianesthesia nurses and future research: Pre-warming using forced-air warming can decrease drastic drops in temperature <95°F and can reduce intra-op hypothermia in colorectal surgery patients. The pre-warming can be extended to patients undergoing other surgeries involving intra-op body heat loss. Studies can be done to understand if pre-warming has positive effect in decreasing SSI and length of stay in PACU.