A Preoperative Forced-Air Warming Protocol to Maintain Post-operative Normothermia in Colorectal Surgery Patients

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Introduction:
Studies have shown that actively prewarming a surgery patient helps maintain normothermia postoperatively and potentially decrease incidence of surgical site infections.

Identification of the Problem:
Surgical site infections (SSIs) account for about 40% of all hospital-associated infections. Nearly 3% of postoperative patients develop a SSI and are twice as likely to die as other postoperative patients.

Purpose of the Study:
To determine if the use of a preoperative forced-air warming device promoted normothermia in the immediate postoperative phase, as measured by the admission temperature into PACU.

Methods:
After approval from the associated surgeons, a protocol was initiated by the nursing staff to pre-warm all colorectal surgery patients. Although this patient population is warmed intraoperatively by anesthesia, the PACU nursing team identified numerous patients in the immediate postoperative phase, hypothermic.

To improve outcomes, patients undergoing colorectal surgery were warmed with a forced-air warming device for 30 minutes in pre-operative holding area to promote postoperative normothermia (≥96.8°F). A pre-op baseline temperature and the first temperature upon admission to the PACU, obtained through the use of one, new, study-dedicated temporal thermometer, were recorded in the patient’s pre and postoperative admission assessment. After obtaining IRB approval, a retrospective analysis was performed to obtain baseline data on patients who were in the PACU from July 2007
through September 2009. Data collected included time in and out of PACU, procedure, and temperatures.

**Results:**
In the first six months after implementation, 72 patients were reviewed. 66.2% of patients were normothermic (>96.8°F) immediately post-op. During the following 20 months, 98.3% of the 385 patients entered PACU normothermic.

**Discussion:**
Pre-operative warming had a significant impact on immediate post-operative temperatures in colorectal surgery patients.

**Conclusion:**
The implementation of this forced-air warming protocol has shown significant improvement in temperatures post-operatively.

**Implications for Perianesthesia Nurses and Future Research:**
Surgical outcomes can be improved through adherence to evidence-based practices. The next step will be to determine the impact of post-op normothermia on reduction of surgical site infections and to potentially extend this protocol to all surgical patients.

