

Project Submission:
2009 Delaware Valley Patient Safety Award

RIDDLE MEMORIAL HOSPITAL

“Perioperative Normothermia”

**Health Care Improvement Foundation
2009 Delaware Valley Patient Safety Award**

Abstract

The Surgical Care Improvement Project has implemented national surgical quality improvement efforts to actively target preventable surgical complications. One identified target effort of improvement is to decrease surgical site infections by maintaining normothermia. (SCIP-Inf 7 *Perioperative normothermia among colorectal surgical patients*). The purpose of this project was to research and implement the best practice to ensure normothermia of the surgical patient to meet the AORN requirements of Prevention of Unplanned Perioperative Hypothermia.

Title: **Perioperative Normothermia**

Goals: Meeting the SCIP initiative directed towards normothermia of the surgical patient inspired our management group to initiate research trials. Our focus was twofold, one was to receive the best outcome for the patients, and secondly the data would assist us in making the best investment. While the focus of National Quality measures is normothermia in the immediate postoperative colorectal patient, we chose to study our highest volume surgical procedures. Our statistics revealed that procedure to be laparoscopic cholecystectomy.

Baseline Data: Our focus was to compare various warming mechanisms and processes to warm the surgical patient undergoing laparoscopic cholecystectomies. At different intervals of our research process, the surgical patients' temperatures were monitored preoperatively, intraoperatively and postoperatively in the PACU area. All patients received the same temperature monitoring process.

Interventions: The three studies included the process of warming the patients with warming blankets alone, warmed irrigation, or forced air warming devices. The forced air warming devices were initiated preoperatively, continued through the surgery and then in PACU recovery area.

During each of three trials, the patient undergoing laparoscopic cholecystectomy surgery had their temperature taken in the same method preoperatively, and postoperatively. The three trials of warming the patient were performed by first warming the patient by warm blankets, secondly with warmed irrigation fluids, and lastly by warm forced air devices. The first two trials were initiated within the surgery room, while the last trial forced warm air over the patient in preoperative holding area, operating room and finally continued in the PACU. Randomization was instituted to select a fairly equal patient population in each group. The patients included in this study were both males and females over the age of 18. The room temperature was constantly maintained between 68-73 degrees Fahrenheit.

Results: The temperatures in each group were compared within the first fifteen minutes after leaving the operating room. The results indicated warmed forced air initiated preoperatively and carried through the perioperative process was the best method.

Trial 1: Warming blanket applied intraoperatively

28 patients were monitored to have an increase or maintained their temperature of 96.8 or higher within 15 minutes after leaving the operating room. **54% of the time the patients' temperatures reached desired levels.**

Trial 2: Warmed irrigation utilized intraoperatively

28 patients were monitored to have an increase or maintained their temperature of 96.8 or higher within 15 minutes after leaving the operating room. **68% of the time the patient's temperatures reached desired levels.**

Trial 3: Warmed forced air initiated preoperatively and continued intraoperatively and postoperatively

28 patients were monitored to have an increase or maintained their temperature of 96.8 or higher within 15 minutes after leaving the operating room. **75% of the time the patient's temperatures reached desired levels.**

Follow Up: Random review of any surgical patient with Warmed Forced Air Device used pre/intra and postoperatively

28 patients were monitored to have an increase or maintained their temperature of 96.8 degrees or higher within 15 minutes after leaving the operating room. **100% of the patient's temperature reached desired levels.**

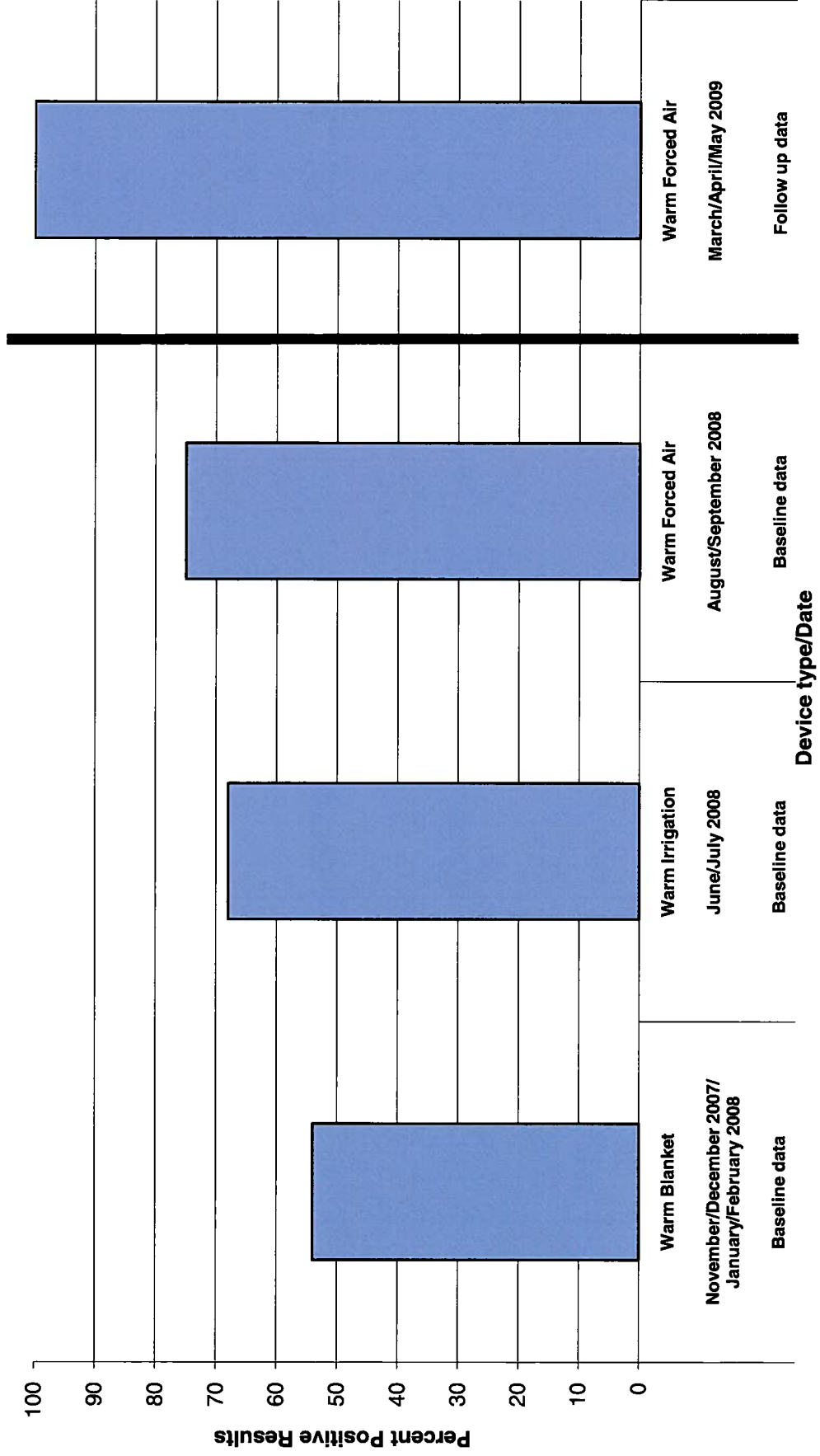
Findings were collaboratively reviewed with surgical services nursing administration and education, anesthesia and surgeons to determine the best practices. The warmed forced air was found to be the best practice yielding the best outcomes for surgical patients.

How this initiative may be replicated throughout the region: The use of Warmed Forced Air Device during the pre-, intra-, and postoperative period improves maintaining normothermia throughout the perioperative period.

Appendix: Data

Excel File "Perioperative Normothermia"

Perioperative Normothermia Percentage with Positive Results (Temp 96.8 or greater 15 minutes post procedure)



Device type/Date

Follow up data

Baseline data

Baseline data

Baseline data