Promotion of Perioperative Normothermia in Patients Undergoing General Anesthesia

Cassie Marie Ishmael DNP, CRNA
Loyola University Health System
Marcella Niehoff School of Nursing, Loyola University Chicago

Problem Recognition
- Up to 90% of surgical patients experience inadvertent perioperative hypothermia (IPH)
- Complications of hypothermia include:
  - Increased cardiac events, wound infections, hospitalization, cost of care
  - Decreased wound healing and patient satisfaction

Evidence
- Promotion of Perioperative Normothermia guidelines (ASPAN, 2010)
- Pre-warming of hypothermic surgical patients or those at risk for IPH for a minimum of 30 minutes using forced air warming

Theoretical Framework
- Rogers, 2003

Project Purpose
- To decrease the current rate of IPH (20.6%) in surgical patients undergoing GA > 30 minutes with protocol implementation

Setting
- Department of Perioperative Services at a large, urban, nonprofit, university healthcare system

Quality Improvement Initiative
- Staff Participant Educational Activity
- Implementation of Promotion of Perioperative Normothermia Protocol

Project Design
- Staff participants included the perioperative manager, 11 preoperative registered nurses and 2 nursing assistants
- Pretest/Post-test design to assess staff knowledge of IPH before and after Voice Over PP staff educational activity
- Forced air warming devices were applied to 40 project participants during the preoperative phase and associated axillary temperatures were recorded

Stakeholder Support
- Key stakeholders for project implementation included patients and families, preoperative registered nurses and organizational leadership
- Patients and family members responded positively to education on the maintenance of normothermia and use of the forced air warming devices
- Staff participation in the project was enthusiastic

Data Collection
- Data derived during the implementation period was collected from the promotion of perioperative normothermia protocol worksheets used for project implementation and entered into Microsoft Excel

Analysis
- Descriptive statistics were used to demonstrate the percentage of patients that experienced IPH prior to transport to the operating room and postoperatively
- Data entry was confirmed by a second individual to eliminate data entry errors

Results
- The Staff Participant Educational Activity increased knowledge of IPH
- The number of project participants that experienced IPH during the preoperative phase was 6 (15%) and during the postoperative phase was 5 (12.5%)
- All project participants were at increased risk of perioperative normothermia due to two or more risk factors

Outcomes
- Implementation of promotion of perioperative normothermia protocol does not decrease the incidence of IPH in adult patients undergoing general anesthesia more than the current standard of practice
- All project participants expressed thermal comfort prior to transport to the operating room

Future Study Recommendations
- A limitation of this quality improvement initiative includes having a small, random sample size (n=40)
- Additional studies are required to assess the impact of the promotion of perioperative normothermia protocol as an essential step in reducing IPH in surgical patients undergoing general anesthesia