

Implementation of a Hypothermia Bundle in the Operation Room

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Background

Without preventative measures to reduce the risk of hypothermia about 50%-70% of all surgical patients experience hypothermia. In turn, this can lead to detrimental effects such as cardiac complications, increased blood loss, wound infections and postoperative shivering. Due to the potential complications, it is crucial to implement changes in the operating room to help the patient maintain a regulated core temperature. These strategies include a hypothermia bundle that consists of pre-warming the patient prior to surgery, warming IV fluids, warming irrigation solutions, forced-air warming, and consistent temperature checks during surgery.

Literature Review

Databases: CBI/PMC, EBSCO, AORN Journal, NIH

Key Terms:

- Hypothermia
- Thermal regulation
- Preventing heat loss
- Warming fluids
- Bair hugger/ forced air warmer
- Self warming blanket



PICOT Question

How would implementing a hypothermia bundle for adult patients in the operating room lower the frequency of inadvertent perioperative hypothermia compared to operating rooms that do not use the hypothermia bundle?

P:Adult patients in the operating room

I: Implementing the hypothermia bundle

C: Perioperative units using the hypothermia bundle vs perioperative units not using the bundle

O: Lowering the frequency of inadvertent perioperative hypothermia in patients

Decision to Change Practice

Our decision to change practice comes from wanting to create a hypothermia bundle which will consist of:

- Pre-warming/ early warming a patient with self-warming blankets because it has been shown to maintain higher body temperatures^{2 4 5}
- Measuring core body temperature before, during, and after the procedure to determine whether the patient is experiencing hypothermia during the procedure^{1 2 3 6}
- Using a forced air warming gown during the procedure to help maintain core body temperatures higher^{1 3 6}
- Using warmed fluid irrigation during procedures to help maintain a higher core temperature.^{4 6}



Synthesis of Findings

- Pre-warming a patient has shown to cause a less of a temperature drop and fewer complications (e.g blood loss).^{1 2}
- Nurses can help diminish the risk of inadvertent hypothermia by measuring core temperatures and using pre-warming techniques and effective methods to maintain normothermia.^{1 2 3}
- The use of a forced air warming gown to prewarm is effective in keeping significantly higher core temperatures throughout the perioperative period.^{1 3}
- The use of warmed fluid irrigation during procedures is effective in reducing the risk of inadvertent hypothermia.⁴
- The implementation of early warming with self-warming blankets aids in reducing the incidence of inadvertent hypothermia.^{2 5}
- Hypothermic patients had a higher rate of postoperative ICU admissions, longer PACU and hospital stay.⁶



Evaluation

- Incidence rate of inadvertent hypothermia in the operating room.
- The outcome measurements will be comparing vital signs which include body temperature readings before, during, and after surgery using the hypothermia bundle to those who do not utilize the bundle.
- The outcomes will be measured and compared in 3 months including all qualifying patient's data during that time frame.
- A survey will be handed out to all circulating nurses in order to gain feedback on the implementation of this intervention.

Acknowledgements

We would like to thank the Gessner family and Mr. Bayardo for providing academic scholarships for members in our group. We would also like to thank our faculty, Dr. Phan for her guidance during our research.

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