Temperature Management: Finding A Balance

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Temperature management has been a hot topic in the operating room because of its known impact on surgical outcomes and the risk of infection. There are various issues to be concerned with regard to temperature management in the OR. From perioperative hypothermia to surgeon comfort, temperature management is often a balancing act in the OR to make sure the producedure is efficient and the patient is safe.

Perioperative hypothermia is the dangerous decrease in a patient's core body temperature to less than 36 degrees Celsius. A few months ago, I spoke with Daniel Sessler, MD, Department Chair of Outcomes Research and a member of the General Anesthesiology department at Cleveland Clinic, who says perioperative hypothermia is mainly the result of anesthetics impairing a patient's normal body temperature control, coupled with an often cooler OR.

"The combination of a cool operating room and impaired temperature control makes patients hypothermic," he says.

As Dr. Sessler explains, patients who maintain normothermia intraoperatively have shown to experience fewer adverse surgical outcomes. According to Dr. Sessler, studies show that the consequences of perioperative hypothermia include:

- A three-fold increase in morbid myocardial outcomes.
- A three-fold increase in the rate of surgical wound infection.
- A significant increase in blood loss and transfusion requirements.
- Delayed recovery/longer hospitalization.

- Thermal discomfort.

Various technological solutions make it possible for OR teams to help keep patients normthermic. The most commonly used—forced air warming, Dr. Sessler says.

While a cool OR is not the sole cause of perioperative hypothermia, Dr. Sessler says it may contribute to it. While an OR need to be maintained at a relatively warm temperature for the patient, it must also be comfortable for the surgeon. Surgeon comfort is crucial to performance. Additionally, it's been reported that a single drop of sweat into an open surgical wound can add significantly to operating time.

According to Sessler, the room temperature in an average case can be 20 degrees Celsius (68 degrees Fahrenheit) with forced air warming and the patient can stay normothermic while the surgeon is cool. AORN Proposed Recommended Practices (2006) suggests a temperature of 23 degrees Celsius (73 degrees Fahrenheit) and up to 26 degrees Celsius (78.8 degrees Fahrenheit) for infants and neonates. In a study of anethetizes neonates and infants, OR temperatures less than 23 degrees Celsius (73.4 degrees Fahrenheit) increased the risk of hypothermia by 1.96 times.

Overall, temperature management is an OR safety issue with many dimensions. It's a give-and-take of preventative measures, patient safety and surgeon comfort. Understanding the risks and maintaining proper temperature in the OR will help OR teams to keep their patients safe, their surgeons comfortable and help prepare them for anything that comes their way.

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