Surgical patients warmed with forced air still experience hypothermia

Even in patients actively warmed with forced air during surgery, hypothermia is routine during the first hour of anesthesia, a new study finds.

Intraoperative core hypothermia causes complications such as coagulopathy, surgical site infections, and possibly myocardial complications. It also decreases drug metabolism, prolongs recovery, and causes thermal discomfort.

Warming surgical patients to help prevent hypothermia is now the standard of care. Guidelines, including the Surgical Care Improvement Project and National Institute of Health and Clinical Excellence, suggest that patients be normothermic (ie, core temperature of at least 36°C) at the end of a surgical procedure.

Forced air is the most common warming approach; however, intraoperative core temperature patterns in patients warmed with forced air remain poorly characterized. The study, led by Daniel Sessler, MD, professor and chair of the department of outcomes research at the Cleveland Clinic, evaluated core body temperature patterns in warmed surgical patients to analyze the effects on blood loss and hospital stay.

Results
Of nearly 59,000 surgical patients warmed with forced air:
• 64% became hypothermic and had core body temperatures below 36°C during the first hour of anesthesia
• nearly 50% continued with a core temperatures below 36°C for more than 1 hour
• 20% had core temperatures below 36°C for more than 2 hours.

Core temperatures then gradually increased, and most patients had normal body temperatures by the end of the surgical procedure.

Hypothermia significantly increased blood transfusions (ie, transfusion requirements progressively increased as core temperatures fell from 1 to 8 degrees per hour below 37°C).

Hypothermia also increased the duration of hospitalization (ie, an increase in length of stay from 2.4 to 2.7 days correlated with core temperature ranges from 0.5 to 4 degrees per hour below 37°C). Only the increase in transfusions was clinically important, however.

Additional randomized trials are needed to evaluate outcomes of very mild hypothermia and whether maintaining higher body temperatures are helpful, the authors say.

An accompanying editorial by Harriet W. Hopf, MD, from the department of anesthesiology, University of Utah School of Medicine, Salt Lake City, noted that the “results suggest the need for a more comprehensive definition of perioperative normothermia and more aggressive efforts to prevent intraoperative hypothermia.”

—Judith M. Mathias, MA, RN

Reference