

Hamza MA, Schneider BE, White PF, Recart A, Villegas L, Ogunnaike B, Provost D, Jones D. Heated and humidified insufflation during laparoscopic gastric bypass surgery: Effect on temperature, postoperation pain, and recovery outcomes. *J Laparoendosc Adv Surg Tech A* 2005; 15: 6-12

LINK - <https://www.ncbi.nlm.nih.gov/pubmed/15772469>

Abstract

BACKGROUND:

Controversy exists regarding the efficacy of heated and humidified intraperitoneal gases in maintaining core body temperature. We performed a sham-controlled study to test the hypothesis that active warming and humidification of the insufflation gas reduces intraoperative heat loss and improves recovery outcomes.

PATIENTS AND METHODS:

Fifty morbidly obese patients undergoing laparoscopic Roux-en-Y gastric bypass procedures using a standardized anesthetic technique were randomly assigned to either a control (sham) group receiving room temperature insufflation gases with an inactive Insuflow (Lexion Medical, St. Paul, MN) device, or an active (Insuflow) group receiving warmed and humidified intraperitoneal gases. Esophageal and/or tympanic membrane temperature was measured perioperatively. Postoperative pain was assessed at 15 minute intervals using an 11-point verbal rating scale, with 0 = none to 10 = maximal. In addition, postoperative opioid requirements, incidence of nausea and vomiting, as well as the quality of recovery, were recorded.

RESULTS:

Use of the active Insuflow device was associated with significantly higher mean +/- standard deviation (SD) intraoperative core body temperatures ($35.5 +/ - 0.5$ vs. $35.0 +/ - 0.4$ degrees C). Postoperative shivering (0 vs. 19%) and the requirement for morphine in the postanesthesia care unit (5 +/- 4 vs. 10 +/- 5 mg) were both significantly lower in the Insuflow vs. control groups. Patients in the Insuflow group also reported a higher quality of recovery 48 hours after surgery (15 vs. 13, P < 0.05).

CONCLUSION:

The Insuflow device modestly reduced shivering and heat loss, as well as the need for opioid analgesics in the early postoperative period. However, it failed to improve laparoscopic visualization due to fogging, and provided improvement in the quality of recovery only on postoperative day 2.