

**Farley DR, Greenlee SM, Larson DR, Harrington JR. Double-blind, prospective, randomized study of warmed, humidified carbon dioxide insufflation vs standard carbon dioxide for patients undergoing laparoscopic cholecystectomy. *Arch Surg* 2004; 139: 739-743**

LINK - <https://www.ncbi.nlm.nih.gov/pubmed/15249406>

Abstract

HYPOTHESIS:

Patients undergoing warmed, humidified carbon dioxide (CO<sub>2</sub>) insufflation for laparoscopic cholecystectomy will (1) maintain a warmer intraoperative core temperature, (2) have their surgeon experience less fogging of the camera lens, and (3) have less postoperative pain than patients undergoing laparoscopic cholecystectomy with standard CO<sub>2</sub> insufflation.

DESIGN:

A double-blind, prospective, randomized study comparing patients undergoing laparoscopic cholecystectomy with standard CO<sub>2</sub> insufflation vs those receiving warmed, humidified CO<sub>2</sub> (Insuflow Filter Heater Hydrator; Lexion Medical, St Paul, Minn) was performed. Main variables included patient core temperature, postoperative pain, analgesic requirements, and camera lens fogging.

RESULTS:

One hundred one blinded patients (69 women, 32 men) undergoing laparoscopic cholecystectomy were randomized into 2 groups-52 receiving standard CO<sub>2</sub> insufflation (group A) and 49 receiving warmed, humidified CO<sub>2</sub> (group B). Mean patient intraoperative core temperature change (group A decreased by 0.03 degrees C, group B increased by 0.29 degrees C, P =.01) and mean abdominal pain (Likert scale, 0-10) at 14 days postoperatively (group A, 1.0; group B, 0.3; P =.02) were different. Other variables (camera lens fogging, early postoperative pain, narcotic requirements, recovery room stay, and return to normal activities) between groups were similar.

CONCLUSION:

While patients undergoing laparoscopic cholecystectomy with warmed, humidified CO<sub>2</sub> had several advantages that were statistically significant, no major clinically relevant differences between groups A and B were evident.