BACKGROUND AND OBJECTIVES: Within recent years, the insufflation technique for laparoscopy has become more important with high flow insufflators (> or = 30 L/min) and high gas turn over (> or = 800 L/procedure). Increased amounts of carbon dioxide (CO2) gas used can lead to laparoscopic hypothermia. We studied the insufflator with versus insufflators without internal gas heating (inside insufflator) as a sufficient method of hypothermia prevention at different flow rates. METHODS: With a computer-based data acquisition model, different standard insufflators with internal gas heating (Snowden Pencer) vs. without (Storz Endoflator, Storz Laparoflator, Richard Wolf, and BEI Medical) were compared regarding CO2 gas temperature at different points in the insufflation system (insufflator exit, insufflation hose end). RESULTS: Gas temperature of the Snowden Pencer insufflator, which is flow-rate dependent, increases at the exit (max. 35.4 degrees C). However, gas temperature is back to room temperature (-0.22 to +1.10 degrees C) at the end of the insufflation hose (10 ft or 3 m) for all 5 insufflators studied. Even at high gas flow rates (< or = 20 L/min), CO2 gas is at room temperature when it reaches the patient. DISCUSSION: No difference was noted regarding gas temperature between the insufflators compared. Insufflator internal gas heating, such as the Snowden Pencer insufflator, cannot have a clinically significant effect because it is too far away from the patient to raise the gas
temperature in the abdomen. Purchasers are misled because the gas-heating device has no measurable benefit for the patient.