Lenhardt R, et al. (1997) Mild Intraoperative Hypothermia Prolongs Postanesthetic Recovery. Anesthesiology 87: 1318-23

Link – http://anesthesiology.pubs.asahq.org/data/Journals/JASA/931275/0000542-199712000-00009.pdf?resultClick=1

Abstract

Background: Intraoperative hypothermia is common and persists for several hours after surgery. Hypothermia may prolong immediate recovery by augmenting anesthetic potency, delaying drug metabolism, producing hemodynamic instability or depressing cognitive function. Accordingly, the authors tested the hypothesis that intraoperative hypothermia prolongs postoperative recovery.

Methods: Patients undergoing elective major abdominal surgery (n -150) were anesthetised with isoflurane, nitrous oxide and fentanyl. They were randomly assigned to routine thermal management (hypothermia) or extra warming (normothermia). Postoperative surgical pain was treated with patient controlled analgesia. Fitness for discharge from the post-anaesthesia care unit was evaluated at 20-min intervals by investigators blinded to group assignment and postoperative core temperatures. Scoring was based on a modification of a previously published system that included activity, ventilation, consciousness, and hemodynamic responses. Patients were considered fit for discharge when they sustained a score of 80% (13 points) for at least two consecutive measurement periods.

Results: Morphometric characteristics and anaesthetic management were similar in each group. Final intraoperative core temperature differed by ≈2◦C: 34.8 ± 0.6 versus 36.7 ± 0.6◦C (mean ± SD, $P < 0.001$). Postoperative pain scores and postoperative use of patient-controlled opioid were similar. Hypothermic patients required ≈40 min longer (94 ± 65 *vs.* 53 ± 36 min) to reach fitness for discharge, even when return to normothermia was not a criterion ($P < 0.001$). Duration of recovery in the two groups differed by ≈90 min when a core temperature > 36◦C was also required ($P < 0.001$).

Conclusion: Maintaining core normothermia decreases the duration of postanesthetic recovery and may, therefore, reduce costs of care.