The intraoperative use of a novel warm-air mattress for surgery in the lithotomy position.

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Aims: To elucidate the changes in core body temperature (CT) with an intra-operative warm-air mattress designed for the lithotomy position.
Methods: After ethical approval and informed consent, 12 patients (ASA I-III), scheduled for major recto-abdominal surgery were included. The mattress was placed under the entire back of the patient and the warming started before the induction of general anaesthesia. Baseline and postoperative CT was measured awake as tympanic temperature (TT). Intraoperative CT was measured in the oesophagus (ET). Skin temperature (ST) was measured on the back. The mattress temperature was adjusted to reach the aimed CT of ≥36.5° C. The skin was inspected for burns or decubital sores postoperatively and the next day. Data are presented as median and range.
Results: The initial TT awake was 37.2 (36.1-37.5) ° C. The lowest ET (35.9° C, 35.3-36.6) was found after 75 (25-135) minutes. Ten patients reached the aimed CT within 75 (0-240) minutes while two patients only reached 36.3° C. TT at the end of the warming was 37.2 (36.6-38) ° C. At 2 hours postop the TT was 37.0 (36.4-38.4) ° C. The highest ST was 40.3 (38.4-41.5)° C. Estimated bleeding was 475 (150-4600) ml. No signs of burns or decubital sores were found.
Conclusions: Cutaneous warming with this mattress was an effective means of preventing intraoperative hypothermia during prolonged abdominal surgery. No device-related adverse effects were observed. It also gives access to the patient without interrupted warming.