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Comparison of two forced-air warming devices for the prevention of hypothermia during abdominal surgery in the Lloyd-Davies position

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Background and Goal of Study: Prevention of perioperative hypothermia may be challenging especially in situations where positioning of the patient leaves minimal body surface area available for warming strategies. This is the case for the Lloyd-Davies position (30° Trendelenburg position with legs apart and with the hips flexed at 15°). The present study was designed to evaluate the effectiveness of an underbody forced-air warming mattress in patients undergoing surgery in Lloyd Davies position, in comparison with the upperbody forced-air warming blanket.
Materials and Methods: After approval of the local Ethics Committee and informed consent 44 patients undergoing surgery in Lloyd-Davies position with a combined general and epidural anesthesia were randomly allocated to 2 treatment arms: group A: Mistral-Air® Forced Air Warming Underbody and group B: Bairhugger® Forced Air Warming Upperbody.
From time of induction core temperature was monitored with an esophageal probe and recorded every 15 minutes.
Temperatures over time in the different groups were analyzed using two-way analysis of variance for repeated measurements. Data are expressed as mean with standard deviation.
Results and Discussion: Forty four patients were included in a period of 24 months. One patient was excluded because of malfunction of the thoracic epidural. Finally, data of 21 patients in group A and 23 patients in group B were used for analysis. There were no differences in patient characteristics between groups.
Temperature data are summarized in the table.

	T0	T15	T30	T45	T60	T75	**P between time points**
Group A	36.1 (0.4)	36.0 (0.4)	35.9 (0.6)	35.8 (0.5)	35.7 (0.4)	35.7 (0.4)	**<0.001**
Group B	36.0 (0.4)	35.8 (0.5)	35.6 (0.6)	35.4 (0.5)	35.4 (0.5)	35.5 (0.5)	**<0.001**
P between groups	**n.s.**	**n.s.**	**<0.05**	**<0.05**	**<0.05**	**n.s.**	

[Table 1]

Temperatures at T30, T45 and T60 were higher in group A than in group B.
Conclusion: The forced-air warming underbody seems to provide better early temperature maintenance than the routinely used forced-air warming upperbody.

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