

Active Body Surface Warming Systems (ABSW) for Preventing Complications Caused by Inadvertent Peri-operative Hypothermia in Adults

Clinical study

AUTHORS

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CENTER AND COUNTRY

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TYPE OF STUDY

Retrospective, Studies Review

STUDY OBJECTIVE

Assess the effectiveness of pre- or intraoperative ABSW, or both, to prevent perioperative complications from unintended hypothermia during surgery in adults.

METHODOLOGY

The review includes 67 randomized controlled trials (5,438 people). The trials included patients of all ages and both genders undergoing all types of surgery. The evidence was from studies available to October 2015. Forty-five trials compared a warming system to a control intervention, 18 compared different types of warming systems, and 10 compared different modalities of the same warming system. Forced-air warming was the most studied system.

STUDY RESULTS

The comparison of ABSW versus control showed a reduction in the

rate of surgical site infection (risk ratio (RR) 0.36, 95% confidence interval (CI) 0.20 to 0.66; 3 RCTs, 589 participants, low-quality evidence). One study at low risk of bias observed a beneficial effect with forced-air warming on major cardiovascular complications (RR 0.22, 95% CI 0.05 to 1.00; 1 RCT with 12 events, 300 participants, low-quality evidence) in people at high cardiovascular risk. ABSW was associated with a reduction in shivering (RR 0.39, 95% CI 0.28 to 0.54; 29 studies, 1,922 participants) and in thermal comfort (standardized mean difference (SMD) 0.76, 95% CI 0.29 to 1.24; $I^2 = 77%$, 4 trials, 364 participants).

CONCLUSION

Forced-air warming seems to have a beneficial effect in terms of a lower rate of surgical site infection and complications compared to not applying any active warming system. Patients receiving active warming systems had about one-third the risk of postsurgical chills or shivering compared to those receiving control treatment. Thermal comfort was increased for the patient compared with the control intervention. It could also reduce the risk of major complication of heart and circulation.

FULL ARTICAL AVAILABLE AT

<http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD009016.pub2/abstract>

YEAR OF PUBLICATION

2016

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