

# Assessing the Impact of Preoperative Patient Warming On Postoperative Complications In Bilateral Reduction Mammoplasty: a Randomized Controlled Trial

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## Abstract

**Background:** Accruing evidence suggests that perioperative hypothermia may represent an avoidable, clinically significant risk factor for postoperative complications<sup>1,2,3</sup>. Despite a paucity of prospective, controlled plastic surgical data, recommendations exist for the incorporation of preoperative patient warming into plastic surgical practice<sup>2</sup>. This is the first randomized controlled trial assessing the impact of preoperative patient warming on postoperative complication rates in a single plastic surgical procedure.

**Methods:** 69 consecutive bilateral reduction mammoplasty patients were prospectively randomized to receive either preoperative forced-air warming, or standard care. Core body temperature was measured intraoperatively. Occurrences of hematoma, seroma, wound dehiscence, and infection were recorded over 6 months of follow-up by clinicians blinded to experimental status.

**Results:** 68 Bilateral reduction mammoplasties were analyzed. No significant differences existed between the experimental and control groups with respect to potentially confounding operative or patient characteristics. 18 complications were observed (26%). 4 of 9 complications in the experimental group were wound infections (11%) versus 7 of 9 complications in the control group (23%). Logistic regression revealed no statistically significant ( $p > .05$ ) differences between complication rates with respect to both pooled and individual complications at any time point. Differences in mean intraoperative body temperature were not statistically significant. (Fig. 1)

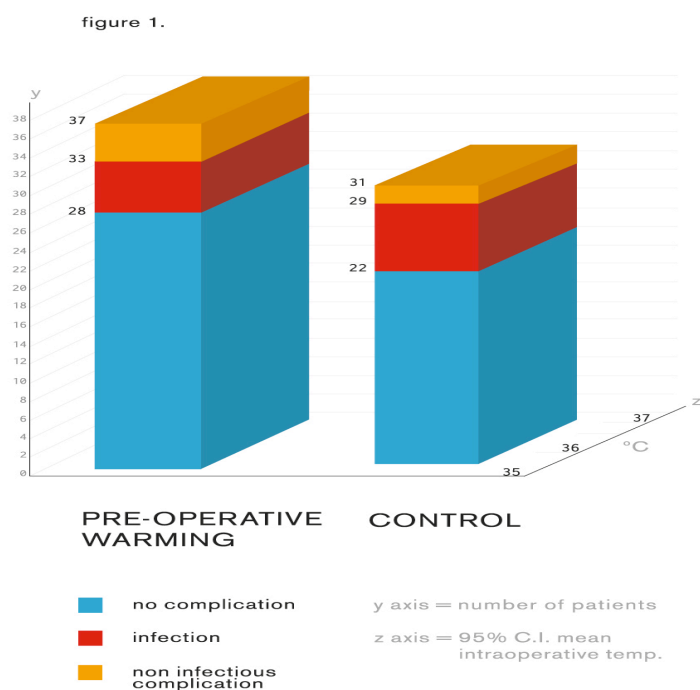


Figure 1. Mean intraoperative body temperature versus complication within 6 months follow up.

**Conclusions:** We conclude that preoperative forced-air warming for bilateral reduction mammoplasty patients may not significantly reduce rates of postoperative complication. Because no significant difference was found between mean intraoperative temperatures, and both fell within the normothermic range, our findings cannot be extrapolated to circumstances in which preoperative hypothermia may predominate. Additionally, this trial is not powered to detect all potentially significant percent differences in complication rate. However, this evidence weakens the argument for the adoption of preoperative patient warming in plastic surgery. Further trials are needed to determine what role preoperative warming may serve on a more selective basis.

**References:**

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