

## **Inadvertent hypothermia in the perioperative period; pre, post or both? A register based quality study at Danderyds Hospital.**

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*Introduction:* Body temperature is one of the critical vital signs measured to ensure homeostasis. It is part of the National Early Warning Score assessment scale and should be monitored in all patients at risk for deterioration in health. Monitoring of temperature has not been obligated during routine surgery and anaesthesia. As hypothermia has been shown to have unfavourable effects, the interest in following temperature even during routine procedures has increased.

*Aim:* To assess perioperative changes in temperature, occurrence of pre- and postoperative hypothermia and to what extent postoperative hypothermia was still seen following 3 high volume surgical procedures at Danderyds University hospital.

*Materials and methods:* The study was a historical cohort study where **SPOR-data** for major abdominal surgery, arthroplasty and Caesarean sections at Danderyds hospital during the time period 2015-2020 was collected for analysis. The registered body temperature before start of anaesthesia and at the end of surgery was the primary objective of the study.

*Results:* Registration of body temperature was sparse, only five percent of the patients in the SPOR-database had temperature registration. The Caesarean section mothers showed a decrease in temperature with a significantly higher incidence of hypothermia at end of surgery compared to the abdominal surgery patients, 25% and 13% respectively ( $p=0,000$ ). Both abdominal surgery patients and arthroplasty patients showed an increase in temperature but they also had a significantly higher incidence of hypothermia already at start of surgery, 18% and 26% respectively ( $p<0,05$ ).

*Conclusions:* The awareness of temperature protection intraoperatively must be further enhanced especially for Caesarean section mothers. For major abdominal and arthroplasty patients, temperature protection efforts must be enhanced already before surgery.

*Keywords:* Inadvertent perioperative hypothermia, anaesthesia, abdominal surgery, arthroplasty, Caesarean section.