

Abstract no.: PR. 1-8

Effect of Pre-operative Warming on Peri-operative Outcomes in Major Urological Surgery: A Retrospective Cohort Study

CYC Ho, KY Ko, TO Yu, HS So

Division of Urology, Department of Surgery, United Christian Hospital

Introduction

- Relatively high prevalence of post-operative hypothermia in Urology cases due to use of cold irrigation + difficulty in using warmed blanket intra-operatively
- 10 minutes of pre-operative warming can significantly reduce post-operative hypothermia
- Maintaining normothermia is associated with
 - reducing hypothermia and enhancing temperature stability
 - minimising shivering and pain
 - positive surgical outcomes such as reducing surgical site infection
 - faster recover

Objective

To evaluate the effect of pre-operative warming on perioperative outcomes in patients undergoing major urological surgeries

Method

- A **retrospective cohort study** of 42 patients who underwent elective major urological surgeries was conducted from December 2023 to March 2024 in United Christian Hospital.
- Surgical pre-warming for 10 minutes by **forced air warming** prior to induction was introduced in February 2024 .



Introduction of Surgical Pre-warming

DEC 2023 FEB 2024 MAR 2024

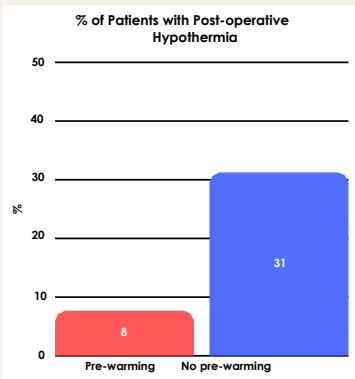
Major urological surgeries included were: PCNL, Ho LEP, total and radical nephrectomy, and nephroureterectomy

Results

Fewer Post-operative Hypothermia

Higher post-operative body temperature (statistically insignificantly) recorded at post-anaesthesia care unit (PACU)

- **36.48 °C** with pre-warming
- **36.21 °C** with no pre-warming

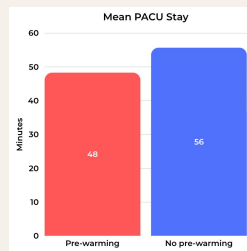


Fewer post-operative hypothermia (first-recorded body temperature of < 36°C)

- **7.7 %** with pre-warming
- **31%** with no pre-warming group

Shorter Mean PACU Stay

Shorter post-anaesthesia care unit (PACU) stay in pre-warming group, although not statistically significant ($p = 0.218$)

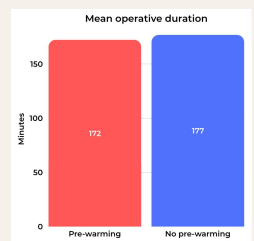


- Mean **48.3 minutes** in pre-warming group
- Mean **55.7 minutes** in no pre-warming group

Similar Mean Operative Duration

Similar mean operative duration between the two groups

- Mean **172.3 minutes** with pre-warming
- Mean **176.8 minutes** with no pre-warming



Conclusion

Pre-warming was associated with **fewer hypothermia** and non-significant trend toward higher postoperative body temperatures, suggestive of a protective effect. It was also associated with a **shorter duration of stay in PACU**. Larger prospective studies are warranted to further define the role of pre-warming in urological surgeries.