

# REDUCTION IN TEMPERATURE AFTER SPINAL ANAESTHESIA IN OBSTETRIC PATIENTS WITH ROUTINE WARMING PRECAUTIONS AT STEVE BIKO ACADEMIC HOSPITAL



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## Background

- Core temperature is closely regulated by the body.
- Hypothermia causes cerebral, cardiac, metabolic, renal and coagulation abnormalities.
- It also increases the risk of perioperative blood loss, surgical site infections, stroke and mortality.
- Due to the technical difficulty of monitoring core temperature in awake patients under neuraxial anesthesia, temperature is rarely monitored.

## Study Design

- Ethics approval and patient consent obtained.
- 30 patients undergoing spinal anesthesia for caesarean section had their temperature measured every 5 minutes from baseline before spinal for 9 readings.
- Routine spinal anesthesia performed with 1.8ml bupivacaine and 0.2 ml Fentanyl.
- Active warming precautions taken with forced air warming device and warm fluids
- Baseline phenylephrine infusion at 0.1ug/kg/min.
- Device: Infrared tympanic membrane thermometer. Braun Pro 6000.
- Blood pressure, Comfort (Adjusted Numeric Rating Scale) and shivering were noted.

## Exclusions

- BMI >35
- Height <1.4 and >1.8m
- ASA 3 and 4
- Emergency Cases

## Results:

- Pearson correlation used for continuous variables.
- Statistically significant linear decline in temperature over time.
- Highest overall baseline temperature, 36.4°C (p<0.001; CI 36.35-36.6) and last reading 35.9°C (p<0.001; CI 35.7 – 36.1).
- Statistically significant overall 0.43°C after 40 minutes and lowest individual reading: 34.7°C.
- Ambient temperature during operation minimally changed.
- Blood pressure decline was less than 20% from baseline.
- Increased phenylephrine dose was not associated with temperature decline.
- Average patient comfort rating greater than 60% observed.
- Only 1 patient shivered.

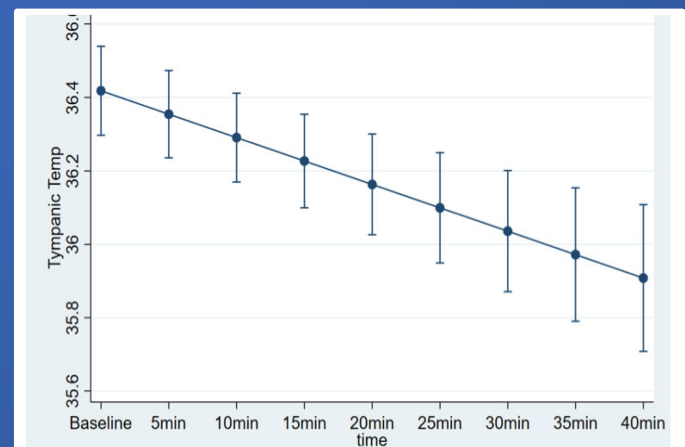


Figure 1. Tympanic temperature per time interval

## Conclusion

- Statistically significant decline in tympanic (core) temperature of 0.43°C, 40 minutes after spinal anaesthesia in patients undergoing elective caesarean section with active warming precautions.
- However, considered not to be clinically significant.