

### Background:

Perioperative hypothermia in burns patients was reported as one of the prevalent causes of surgery terminalisation which resulted in an increased risk of wound and systemic infections and patients having to undergo greater numbers of surgeries. Nonexistence of Organisational Wide Instruction or Protocol on Hypothermia management with instructions on pre-warming of patient prior surgery led to numerous cases of severe intraoperative hypothermia which resulted in surgery delay, interruption, discontinuation or cancellation.

### Aim of the Project:

To implement the best evidence based protocol on the management of hypothermia in burns patients in the operating room and thereby improve burns patient management and outcome and efficient operating room resource utilization.

### Specific Objectives:

- To assess current compliance with evidence-based criteria regarding management of hypothermia in burns patients in TS using a baseline audit tool developed by JBI
- To develop and implement an evidence-based best practice protocol on the prevention and management of hypothermia in burns patients in TS in order to improve patient outcomes.
- To improve knowledge regarding best practice on prevention and management of hypothermia in burns patients in TS amongst all stakeholders including Emergency Department (ED), Intensive Care Unit (ICU), Recovery Unit, Adult Burns Center (ABC), Anaesthetics and Technical Suites (TS) Scrub/Scout nursing staff.
- To under-take follow up audit and compare the results with base line audit in order to develop new strategies to address non-compliance.
- To continue education amongst stakeholders on prevention and management of hypothermia and encourage use of the protocol.

### Methods:

This evidence based implementation project used the JBI Practical Application of Clinical Evidence System (PACES) and Getting Research into Practice (GRiP) audit and feedback tool. The PACES and GRiP framework for promoting evidence based health care involved three phases of activity:

1. Establishing a team for the project, educating and informing all stakeholders: ED, ICU, ABC, Recovery and TS and Anaesthetics about the project and undertaking a baseline audit on the management of hypothermia in burns patients in the Operating Room.
2. Reflecting on the results of the baseline audit, designing and implementing the strategies to address non-compliance found in the baseline audit, developing and implementing an evidence based best practice protocol on the management of hypothermia in burns patients in OR/TS
3. Conducting a follow up audit to assess the outcomes of the interventions implemented to improve practice, identifying future practice issues and addressing them in subsequent audits.

**Table 1. Compliance with best practice audit criteria in follow up audit compared to baseline audit (%)”**



**Table 2. The comparison chart of baseline and follow-up audit results.**

Audit criteria	Baseline audit	Follow-up audit	Variation
Preoperative warming methods are used on all patients with temperature below 36.5° C	0%	57%	57%
Theatre room is pre-warmed to 30° C if patient's temperature is below 36.5	70%	71%	1%
Patient's temperature is measured and documented before induction of anesthesia	80%	86%	6%
Temperature recording and warming devices are readily available in the operating room	100%	100%	0%
Patient's temperature is closely monitored and reported every 30 min by the scout nurse (circulating nurse)	20%	71%	51%
Active warming is used for patients with temperature below 36.5	60%	86%	26%
Nursing staff are educated and trained in the prevention and management of hypothermia	50%	100%	50%
Protocol on prevention and management of hypothermia is in place	0%	0%	0%
Temperature is monitored in the recovery room, 30 minutes postoperatively	70%	86%	16%

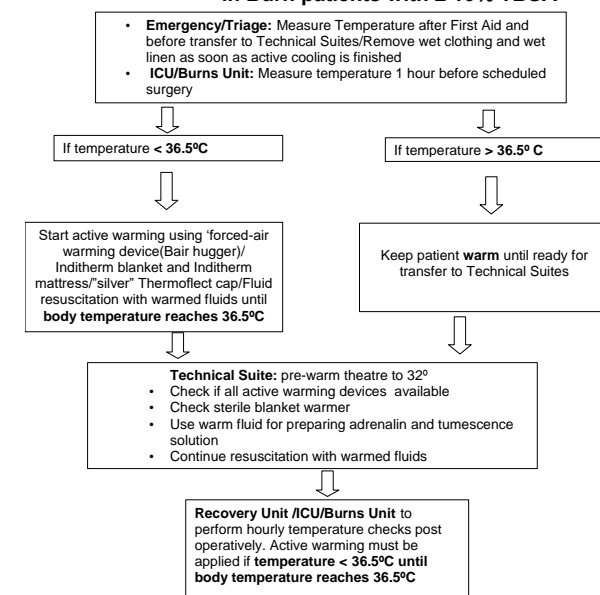
### Results:

This project looked at the current practice and assessed non-compliance with best practice of the multidisciplinary team including ED, ICU, Burns Unit, TS, Recovery and Anaesthetics in prevention and management of hypothermia in burn patients. The project helped to develop a multidisciplinary protocol to improve management of burn patients. The best results were achieved by education which involved power point presentations with basic information on

hypothermia, detailed visual report on each baseline audited patient, photos of surgical procedures. It also covered data on patient's body temperature drop, lengthy surgical time, delays and cancellations, intra and post-surgical complications and protocol draft on prevention and management of hypothermia. The protocol on Prevention and Management of Hypothermia was developed and sent to the stakeholders for an approval. The feedback was gathered and protocol was adjusted accordingly, approved and integrated into the OWI link on the RAH intranet for use by all stakeholders. Reduced time of surgical procedures and the absence of surgery cancellations due to patient's hypothermia were the main success of this project.

Appendix 1

### Protocol for Prevention and Management of Hypothermia in Burn patients with $\geq 10\%$ TBSA



Contact: Svetlana Kolokolnikova mob: 0433224874 or svetikaustralia@gmail.com