

# RETROSPECTIVE AUDIT TO ASSESS IMMEDIATE POST-OPERATIVE CENTRAL & PERIPHERAL TEMPERATURES ON ARRIVAL TO INTENSIVE CARE FOLLOWING CARDIAC SURGERY IN CORK UNIVERSITY HOSPITAL. \*CICU: Cardiac Intensive Care Unit

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## Introduction

- Hypothermia after cardiac surgery is a key physiological abnormality <sup>(1)</sup>.
- Significant association of adverse outcomes when bladder temperature  $<36.0^{\circ}$  on admission to Intensive Care.
- Incomplete rewarming of peripheral tissues creates a large temperature gradient (bladder-peripheral), resulting redistribution of central heat <sup>(3,4)</sup>.

## CONCLUSION

- Patients who received cardiac surgery in CUH were mildly hypothermic (35.3 degrees) on immediate post-operative admission to the CICU.
- Significant gradients between bladder and peripheral temperature exist. Patients are significantly cooler when compared to a normothermic baseline.


### Proposed changes:

1. Use of temperature controlled heated surgical mats at rewarming onwards.
2. Continue standard post-operative convection warmers (Bear Hugger).
3. Aim to achieve normothermic temperature post-operatively on admission to CICU.
4. Plan to re-audit in coming month following implementation of changes.

## METHOD

1. Anaesthetic & Intensive Care Software reviewed:

2. INCLUSION	EXCLUSION
Post Cardiac/ Aortic Surgery	No Cardiac/ Aortic Surgery
1st Admission to CICU	Readmission to CICU
Complete Data	Incomplete data
Temperatures recorded at same timepoint.	Temperatures recorded at different timepoints.

 n = 60



### 3. VARIABLES RECORDED

Primary bladder CICU admission temperature	Primary peripheral CICU admission temperature
Age/ Gender	Surgery type
Recorded on EXCEL®	
Analysed using SPSS® v2020.	

## RESULTS



86% Male  
Age m= 66.5±8.8years



59% CABG  
15% AVR  
2% Aortic  
24% Combined/ other valve



Bladder temperature m=35.3±1.4 degrees ( $p=0.001$ )



Peripheral temperature m=30.9±3.1 degrees ( $p=0.001$ )

**Degrees Cooler than Normothermic baseline of 37 degrees:**



Bladder m=1.7±1.4 degrees  
Peripheral m=6±3.1 degrees ( $p=0.001$ )