



# ARCTIC HEALTH

*An information portal to issues affecting the health and well-being  
of our planet's northernmost inhabitants*

## Temperature management and monitoring practices during adult cardiac surgery under cardiopulmonary bypass: results of a Canadian national survey.

<https://arctichealth.org/en/permalink/ahliterature134381>

Author: D. Belway  
R. Tee  
H J Nathan  
F D Rubens  
M. Boodhwani

Author Affiliation: Department of Perfusion Services, University of Ottawa Heart Institute, Ottawa, ON, Canada.

Source: Perfusion. 2011 Sep;26(5):395-400

Date: Sep-2011

Language: English

Publication Type: Article

Keywords: Adult  
Body temperature  
Canada  
Cardiac Surgical Procedures  
Cardiopulmonary Bypass  
Data Collection  
Female  
Humans  
Hypothermia - etiology - physiopathology  
Male  
Monitoring, Intraoperative - methods

Abstract: Mild to moderate systemic hypothermia is commonly used as a cerebral protective strategy during adult cardiac surgery. The benefits of this strategy for routine cardiac surgery have been questioned and the adverse effects of hyperthermia demonstrated. The purpose of the present study was to examine current temperature management and monitoring practices during adult cardiac surgery using CPB in Canada.

Web-based survey referring to adult cases undergoing cardiac surgery using CPB without the use of deep hypothermic circulatory arrest. Thirty-two questionnaires were completed, representing a 100% response rate. The usual management is to cool patients during CPB at 30 (94%) centers for low-risk (isolated primary CABG) cases and at 31 (97%) centers for high-risk (all other) cases. The average nadir temperature at the target site achieved on CPB is 34°C (range 28°C - 36°C). At 26 (81%) centers, patients are typically rewarmed to a target temperature between 36°C and 37°C before separation from CPB. Only 6 (19%) centers reported that thermistors and coupled devices used to monitor blood temperature are checked for accuracy or calibrated according to the product operating directive's schedule or more often.

Contemporary management of adult cardiac surgery under CPB still involves induction of mild to moderate systemic hypothermia. Significant practice variation exists across the country with respect to target temperatures for cooling and rewarming, as well as the site for temperature monitoring. This probably reflects the lack of definitive evidence. There is a need for well-conducted clinical trials to provide more robust evidence regarding temperature management.

PubMed ID: 21593083 [View in PubMed](#) 