

CORRESPONDENCE

Open Access



# Response to: In-hospital cardiac arrest: evidence and specificities of perioperative cardiac arrest

James Penketh<sup>1\*</sup> and Jerry P. Nolan<sup>1,2</sup>

## Dear Editor,

We thank De Roux et al. for their interest and comments on our review of in-hospital cardiac arrest [1]. We agree completely that perioperative cardiac arrest has many specific features that make it very different from the circumstances of other causes of in-hospital cardiac arrest. Perioperative cardiac arrests are excluded from some in-hospital cardiac arrest studies for this reason. The epidemiology, treatment and outcome from perioperative cardiac arrest warrant a separate review—we certainly did not have enough space within our review to do justice to the topic. The clinical practice recommendations made by the Perioperative Cardiac Arrest (PERIOPCA) Consortium are potentially helpful [2], as are guidelines published previously by another international group [3, 4]. Unfortunately, it is unlikely that we will ever have high-certainty evidence to inform clinical guidelines on the treatment of perioperative cardiac arrest. Best practice guidance inevitably varies depending on which expert group is providing the advice. Currently, the International Liaison Committee on Resuscitation (ILCOR) has the most comprehensive international representation of any group of resuscitation experts but has yet to review

the science and publish treatment recommendations on perioperative cardiac arrest. The Advanced Life Support Task Force of ILCOR may review this topic in the future and may be informed partly by the findings of the Royal College of Anaesthetists 7th National Audit Project (NAP7) [5]. The NAP7 steering group has reviewed all perioperative cardiac arrests occurring in UK hospitals over a 1-year period and will report its findings in a series of papers in 2023.

## Acknowledgements

None.

## Author contributions

Both authors collaborated in manuscript drafting and reviewed the final draft of the manuscript.

## Funding

None.

## Availability of data and materials

Not applicable.

## Declarations

## Ethics approval and consent to participate

Not applicable.

## Consent for publication

Not applicable.

## Competing interests

James Penketh declares no competing interests. Jerry P. Nolan receives payment from Elsevier (Editor-in-Chief of Resuscitation) and is a Board member of European Resuscitation Council and the International Liaison Committee on Resuscitation and a member of the NAP7 Steering Group.

This comment refers to the article available online at <https://doi.org/10.1186/s13054-022-04247-y>.

This reply refers to the comment available online at <https://doi.org/10.1186/s13054-022-04300-w>.

\*Correspondence:

James Penketh  
[jpenketh@nhs.net](mailto:jpenketh@nhs.net)

<sup>1</sup> Intensive Care Unit, Royal United Hospital, Bath, UK

<sup>2</sup> Warwick Clinical Trials Unit, University of Warwick, Coventry, UK



© The Author(s) 2023. **Open Access** This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>. The Creative Commons Public Domain Dedication waiver (<http://creativecommons.org/publicdomain/zero/1.0/>) applies to the data made available in this article, unless otherwise stated in a credit line to the data.

Received: 4 January 2023 Accepted: 8 January 2023  
Published online: 17 January 2023

## References

1. Penketh J, Nolan JP. In-hospital cardiac arrest: the state of the art. *Crit Care*. 2022;26(1):376.
2. Chalkias A, Mongardon N, Boboshko V, Cerny V, Constant AL, De Roux Q, Finco G, Fumagalli F, Gkamprela E, Legriel S, et al. Clinical practice recommendations on the management of perioperative cardiac arrest: a report from the PERIOPCA Consortium. *Crit Care*. 2021;25(1):265.
3. Moitra VK, Einav S, Thies KC, Nunnally ME, Gabrielli A, Maccioli GA, Weinberg G, Banerjee A, Ruetzler K, Dobson G, et al. Cardiac arrest in the operating room: resuscitation and management for the anesthesiologist: part 1. *Anesth Analg*. 2018;126(3):876–88.
4. McEvoy MD, Thies KC, Einav S, Ruetzler K, Moitra VK, Nunnally ME, Banerjee A, Weinberg G, Gabrielli A, Maccioli GA, et al. Cardiac arrest in the operating room: part 2—special situations in the perioperative period. *Anesth Analg*. 2018;126(3):889–903.
5. Kane AD, Armstrong RA, Kursumovic E, Cook TM, Oglesby FC, Cortes L, Moppett IK, Moonesinghe SR, Agarwal S, Bouch DC, et al. Methods of the 7(th) National audit project (NAP7) of the Royal College of Anaesthetists: peri-operative cardiac arrest. *Anaesthesia*. 2022;77(12):1376–85.

## Publisher's Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Ready to submit your research? Choose BMC and benefit from:

- fast, convenient online submission
- thorough peer review by experienced researchers in your field
- rapid publication on acceptance
- support for research data, including large and complex data types
- gold Open Access which fosters wider collaboration and increased citations
- maximum visibility for your research: over 100M website views per year

At BMC, research is always in progress.

Learn more [biomedcentral.com/submissions](https://biomedcentral.com/submissions)

