CORRESPONDENCE

In reply: Flawed analytical method used for reference glucose

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To the Editor,

We thank Dr. Cembrowski for his useful comments¹ on the accuracy of the GEM® Premier™ 4000 blood glucose analyzer (Instrumentation Laboratory Company, Bedford, MA, USA), which appears to depend on the hour of the day.² We admit that we were unaware of such intra-day changes in accuracy. Assuming that the older GEM® Premier™ 3000 used in our study also shows imprecision in the early morning as suggested by Dr. Cembrowski, this may indeed be another potential limitation of our study.

Nevertheless, the scheduling of cardiac operations in our hospital may have mitigated this issue. In our hospital, we do two sequential cardiac surgeries per day in one operating room. We included patients in the study independent of their start time and recruited both morning and afternoon cases. The first scheduled patients in our study usually arrived in the operating room at 7:00 am with the collection of blood samples starting between 7:30 and 8:00 am. Sampling usually finished within four hours. The second case typically started around 12:00 pm, at the earliest. With the automatic calibration of our analyzer being performed at 2:00 am, many of our samples

would have been analyzed more than six hours later and thus the accuracy was most likely not affected.

Conflict of interest All authors declare that they have no financial or non-financial interests that may be relevant to the submitted work.

Editorial responsibility This submission was handled by Dr. Hilary P. Grocott, Editor-in-Chief, *Canadian Journal of Anesthesia*.

References

1. Cembrowski G. Flawed analytical method used for reference glucose. *Can J Anesth* 2020; 67. DOI: <https://doi.org/10.1007/s12630-019-01444-2>.
2. Nakadate Y, Sato H, Roque P, et al. Accuracy of blood glucose measurements using the NOVA StatStrip® glucometer during cardiac surgery: a prospective observational study. *Can J Anesth* 2019; DOI: <https://doi.org/10.1007/s12630-019-01350-7>.

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