IN REPLY

In reply: Isoflurane use is not associated with prolonged intensive care unit stay following routine cardiac surgery when compared to sevoflurane

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To the Editor,

We appreciate the interest¹ in our randomized trial and are glad to hear that our study provided some additional data to support the current practice at the authors' centre.

There was indeed some variability in the minimum alveolar concentration (MAC) ranges, likely explained by the pragmatic trial design. Clinicians were free to use whatever agent(s)—intravenous or volatile—they preferred. Patients who were given relatively more intravenous anesthetic had lower MAC values on average (and vice versa). As the authors noted, the important point is that there were no systematic differences in MAC between the two groups.

We agree that prolonged intensive care unit (ICU) length of stay can sometimes be driven by factors other than the clinical status of the patient. Several groups,

including our own, however, previously observed that ICU length of stay is a reasonable surrogate marker for overall patient morbidity.^{2,3} We also believe that this outcome is important as it reflects the institution's real costs of care.

The authors are correct that the ICU length of stay was the major driver of the composite primary outcome. They are also correct that, given the low event rates for outcomes such as mortality, the confidence intervals are necessarily wide. We do not believe in a rigid approach to critical appraisal, and therefore we do believe that readers should feel free to interpret any study's outcomes in isolation (i.e., it is not necessary to demonstrate "success" with a primary outcome before moving on to consider secondary outcomes).

Finally, regarding a differential effect of sevoflurane and isoflurane on mortality, we believe that the totality of the evidence in cardiac surgery supports a class effect of these volatile agents, with no evidence of superiority of one over the other. As the authors noted, a very large randomized trial powered to detect a very small difference in mortality between these two agents is unlikely. Therefore, using the least expensive agent is likely a valid (and fiscally responsible) approach.

Conflicts of interest None declared.

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

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