




CORRESPONDENCE

In reply: Comment on: Canadian clinical practice guideline on brain death

Sam D. Shemie, MD, Project Chair  on behalf of the guideline development group for the Canadian Death Definition and Determination Project

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To the Editor,

We thank Dr. Machado for his comments¹ regarding the definition of death in the 2023 Canadian Clinical Practice Guideline² and bringing attention to the alignment of this definition with the World Brain Death Project (WBDP). Both guidelines were widely endorsed by professional societies representing critical care, neurocritical care, neurology, neurosurgery, and numerous others. We fully agree with his assertion that “the critical attribute of life is consciousness” and that death is the “loss of both components of consciousness—arousal and awareness.” This was clearly articulated in our definition. Dr. Machado’s proposition to rephrase the WBDP definition of death should be directed to the authors of that *JAMA* publication.³ He makes an interesting assertion regarding the potential for residual control of the autonomic nervous system by the hypothalamus with implications for emotional awareness, while citing the potential for a “new state of disorder of consciousness” suggesting enduring awareness in the Jahi McMath case.⁴ While provocative, this remains unproven and it would be important for his team and other investigators to show whether these findings can be reproduced in other patients with techniques that have been used previously to assess for covert consciousness such as functional magnetic resonance imaging.

Disclosures Dr. Sam Shemie disclosed that he is the medical advisor for the System Development Team at Canadian Blood Services.

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Editorial responsibility This submission was handled by Dr. Stephan K. W. Schwarz, Editor-in-Chief, *Canadian Journal of Anesthesia/Journal canadien d’anesthésie*.

References

1. Machado C. Comment on: Canadian clinical practice guideline on brain death. *Can J Anesth* 2023; <https://doi.org/10.1007/s12630-023-02660-7>
2. Shemie SD, Wilson LC, Hornby L, et al. A brain-based definition of death and criteria for its determination after arrest of circulation or neurologic function in Canada: a 2023 clinical practice guideline. *Can J Anesth* 2023; 70: 483–557. <https://doi.org/10.1007/s12630-023-02431-42>
3. Greer DM, Shemie SD, Lewis A, et al. Determination of brain death/death by neurologic criteria: the World Brain Death Project. *JAMA* 2020; 324: 1078–97. <https://doi.org/10.1001/jama.2020.11586>
4. Machado C. Jahi McMath: a new state of disorder of consciousness. *J Neurosurg Sci* 2020; 65: 211–3. <https://doi.org/10.23736/s0390-5616.20.04939-5>

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