

RESPONSE TO A LETTER TO THE EDITOR



# Response to Rady re: Religion and Neuroscience

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I appreciate Rady's interest in my recent article, "A survey of multid denominational rabbis on death by neurologic criteria," which discussed rabbinical perspectives on brain death/death by neurologic criteria (BD/DNC) [1]. Although a 2015 survey of neurologists demonstrated that 36% of objections to declaration of BD/DNC are based on religious beliefs that BD/DNC is not true death, there was no empirical data on the perspectives of religious leaders on BD/DNC before this survey of rabbis [2]. Like Rady, I believe that it would be beneficial to explore the perspectives of other religious groups in a similar manner; to this end, I am currently surveying Muslims in healthcare and hospital chaplains about their views on BD/DNC.

I agree with Rady's assertion that, "many religions demand unequivocal and infallible biologic criteria for determining the occurrence of death with certainty;" I don't think anyone could, or would, make the argument that it is ever acceptable to declare a person dead in a situation where it is uncertain that they are truly dead. Indeed, both the legal and medical criteria for death around the world require that the condition be irreversible/permanent [3].

However, I do not support the extrapolation of this statement to facilitate the conclusion that many religions object to BD/DNC. As is evidenced by my findings and Setta and Shemie's review of religious perspectives on BD/DNC [4], religious acceptance/rejection of BD/DNC is not black and white. Rather, religious texts on death can be interpreted in different ways prompting individuals of a given faith to take divergent stances on BD/DNC. Views may fluctuate over time and be both situational

and nuanced [1]. Though Rady cites the Fiqh Council of North America's position that BD/DNC is not death, he neglects to mention that, just as rabbinical perspectives on BD/DNC vary, different countries in the Islamic world and ruling Islamic bodies have formed independent views on BD/DNC. For example, in South Africa, Majlis al-Shura al-Islami equated BD/DNC with legal death in 1994 [5].

Additionally, Rady's statement that "neuroscientific research and discoveries in disorders of consciousness, acute brain resuscitation, and novel neurotherapeutic interventions have...challenged the fundamental assumptions underpinning BD conception as biologic death" is unfounded. To bolster this claim, he cites the fact that the 2010 American Academy of Neurology evidence-based guideline on BD/DNC concluded that there was inadequate data (Level U evidence) to support recommendations on determination of BD/DNC [6]. Notably, the absence of adequate data on this topic *does not* impugn the integrity of the recommendations. The only way for there to be substantial data about BD/DNC would be for a large volume of persons declared brain dead to have organ support continued indefinitely. Furthermore, the fundamental assumption underpinning BD/DNC is that irreversible loss of function of the brain is equivalent to irreversible loss of function of the heart and lungs. This is a philosophical assumption, not an evidence-based assumption.

Rady also notes that, "the neurologic criteria of death are arbitrary, ambiguous, and fallible in practice," which he contrasts with the idea that, "the definition of death is uniform and constant across generations and geography." First, though he writes that, "God created the phenomenon of death," the specific medical criteria for death are designed by humans, so there is, indeed, a sense of arbitrariness to them. In fact, although Rady indicates that "the defining biologic criteria of (cardiopulmonary)

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death are specific and unequivocal in Abrahamic faiths," it has previously been reported that the criteria to declare death by cardiopulmonary criteria are inconsistent [7]. Additionally, while he initially equates the biological criteria for death with cardiopulmonary criteria, he later states, "the biological criterion (disintegration) confirms death." Needless to say, Merriam-Webster defines "disintegration," not as loss of cardiopulmonary function, but, rather, as "the breaking down of something into small particles or into its constituent elements [8]." The incongruence of these two descriptions of the biological criteria of death further demonstrates that there is variability in the concept of death.

It is worth noting that it is not the neurologic criteria for death that are fallible, but, rather, the practitioners applying them to a given situation. Failure to ensure irreversibility, meet all prerequisites and conduct a complete and thorough examination and apnea test that adhere to the detailed criteria can result in false determinations.

Finally, Rady mentions that there is a need for legislation on management of religious objections to determination of BD/DNC. I agree that definitive legal guidance would ensure that objections are universally handled in the same way, rather than on a case-by-case basis. The options, as I see them, are for the law to indicate that, in the setting of a religious objection to BD/DNC, practitioners should: (1) be prohibited from declaring death until irreversible cessation of circulatory and respiratory function; (2) be required to "reasonably accommodate" religious objections, or take religious beliefs into consideration when determining time of death; or (3) disregard religious beliefs when making a determination of BD/DNC or planning discontinuation of organ support.

Hopefully, empirical data on religious perspectives about BD/DNC, such as that which were obtained in this

survey of rabbis, will help clinicians, lawmakers and ethicists unify legal management of religious objections to BD/DNC.

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