
COMMENTARY

Seeking Conceptual Clarity in Organ Procurement Following Circulatory Determination of Death

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Murphy and colleagues have compiled a comprehensive yet concise analysis of conceptual issues surrounding the practice of cDCDD, or controlled procurement of transplantable organs after circulatory determination of death.¹ The issues are interrelated in ways that make them difficult to consider individually, yet the authors have effectively parsed out the key kernels of controversy that are at the core of each. As someone who has participated in these debates for decades, I found the authors' clear analysis to be a uniquely valuable contribution to the literature. At the same time, I have come to wonder whether the fascination of bioethicists with the complex ethical details of cDCDD are somewhat like the proverbial fascination of magpies with shiny objects, and that these details have distracted us from the bigger picture of what is ethically salient in the practice of cDCDD.

The Uniform Determination of Death Act requires that cDCDD donors be declared dead on the basis of the “irreversible cessation of circulatory and respi-

ratory functions.” Yet the authors clearly show that fulfilling these criteria requires answers to a host of contentious questions about how the cessation of these functions should be defined and determined. I suggest, however, that if we can step back from these details and adopt a broader vision about the ethical issues at stake, then it may be possible to discern a path towards greater clarity and simplicity.

Consider, for example, the context of cDCDD donation. Typically, it involves a patient who has suffered a brain injury that is incompatible with meaningful neurological recovery, but not so devastating as to fulfill the criteria for the determination of brain death. Given the poor neurological prognosis, the patient's family has decided that the patient would not want life support to be continued if the patient were able to make that decision. Furthermore, the patient has either signed a donor card indicating the desire to be an organ donor, or the family believes that the patient would have wanted to be an organ donor if given the opportunity to do so. Finally, the family also believes that the patient would have agreed to certain alterations in end-of-life care that would enhance the likelihood of successful organ donation, provided these are not unduly burdensome (e.g., are not painful, do not substantially prolong the dying process, etc.).

In this typical scenario, at least some of the most contentious debates about cDCDD can appear to be pedantic and excessively academic. For example, cDCDD patients all have do-not-resuscitate (DNR) orders in place, such that no attempt to restore circulation will be made once cardiac arrest has occurred. Under these circumstances, there are no known cases of “autoresuscitation” (defined as restoration of spontaneous circulation) following the onset of cardiac

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arrest. In other words, whether these patients are pronounced dead at 2 minutes or 5 minutes, or whether death is pronounced when the loss of circulation is considered to be “permanent” versus “irreversible,” their death is imminent and certain.

The dead donor rule requires that the organs not be removed until the patient is dead, but since there is no doubt that death is imminent, the rule is certain to be honored in spirit, even if not with respect to some of the details about timing. Decisions about how end-

The New England Journal of Medicine recently published research that is relevant to many of these issues.² The investigators studied patients during the dying process and found that 67 of 480 patients (14%) had resumption of cardiac activity after initial cardiac arrest, in one case as long as 4 minutes and 20 seconds after the onset of pulselessness. Many had ECG electrical activity that persisted for even longer. Yet “cardiac activity” was defined as generation of a pulse pressure of >5mm Hg, far below what would be required

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of-life care may be altered to facilitate the procurement of organs can, for the most part, be determined by common sense. Given the explicit or presumed desire of the patient to be an organ donor, routine types of procedures that are commonly performed on patients (such as a placement of intravascular catheters, for example) should be permissible, provided they are done with standard techniques and medications to assure analgesia and comfort. And while maintaining the public trust should always be a core commitment of the medical profession, assuring the public that all of the above precautions are being taken should be enough to assuage any fears that patients are being killed for their organs.

Writing as someone who has passionately debated various sides of the many issues listed above, there is one issue that I think is absolutely central to the ethics of cDCDD. Before beginning the process of organ procurement, we need to be convinced that enough time has lapsed to be sure the patient is unconscious and insensate. Our actions would be unforgivable if the surgical procurement of the organs exposed the patient to pain and suffering. Perhaps surprisingly, this is an issue that has received little attention in the literature. We know, however, that the EEG is essentially flat within one minute of cardiac arrest. Unless evidence to the contrary exists or becomes known, I would suggest that this would be the minimal time that should elapse between the onset of cardiac arrest and the initiation of organ procurement.

to restore circulation of blood to the organs, and the median duration of this activity was 3.9 seconds. Most importantly, none of these patients had return of circulation, regained consciousness, or survived.

What does this study tell us? Some might use these data to support use of the 5-minute rule for determining death after the onset of cardiac arrest. But given that none of the 480 patients had return of circulation or consciousness, I would argue that this interpretation of the data misses the point. Instead, I would be interested in seeing either EEG or other electrophysiological data indicating how long a period of pulselessness was necessary for these dying patients to be unconscious and insensate. This is much more important, it seems to me, than knowing how long we need to wait before we know that the cardiac muscle has made its last agonal twitch or fired its last electrical impulse.

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Note

Dr. Truog has no conflicts to disclose.

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