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Frozen Ethics: Melting the Boundaries between Medical Treatment and Organ Procurement

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implementing uDCDD in an ethically sound manner, and developing and implementing innovative resuscitation techniques in a controlled manner. ■

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When Renee Fox, medical sociologist and noted historian of organ transplantation, first learned of the proposal to use "non-heart-beating cadavers" as organ sources more than 25 years ago, she was appalled. She labeled the proposal "the most elaborately macabre scheme for obtaining organs that I have encountered," adding that "it borders on ghoulishness." She saw the procedure as "beyond the pale of the medically decent, morally allowable, and spiritually acceptable" (Fox 1993, 232). But medically decent has seldom gotten in the way of procuring organs for transplant, and we now seem to be on the verge of adopting an "uncontrolled" version of organ procurement from a non-heart-beating cadaver.

In their commentary describing this new procedure (uncontrolled donation after circulatory determination of death or uDCDD), Arjun Prabhu, Lisa Parker, and Michael DeVita seek to normalize uDCDD by pairing it with an equally disturbing, highly experimental, long-shot emergency intervention for cardiac arrest due to exsanguination (emergency preservation and resuscitation or EPR) (Prabhu et al 2017). They argue that the central ethical question presented by uDCDD is how a hospital can avoid the appearance of conflicts of interest when proposing both uDCDD and EPR. A more fundamental ethical question, we suggest, is whether either of these procedures—both done without informed consent on minority communities whose members will be used as human guinea pigs—should be done at all.

Organ transplants from cadavers always raise potential conflicts of interest between the team caring for the

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recipient and the team caring for the potential organ donor, which is why we have always tried to make sure there are two separate teams in these conflicting roles with a metaphorical firewall between them. EPR and uDCDD seem to make this inherent conflict much starker by explicitly providing that the trauma surgeon can decide to declare death or not (based on heartbeat) and thereby "render [the patient] a potential organ donor," or attempt to save the person's life. Whichever the surgeon decides to do, the initial protocol is identical: The body is entirely drained of its blood, which is then replaced by a "cold organ preservation solution." That's the end of it for the uDCDD protocol (at least until organs are removed for transplant).

The surgeon is remarkably cautioned to be careful "to avoid the possibility of unintentionally resuscitating the patient." Of course, if resuscitation is successful the patient is not dead. And just in case the patient is not really dead, efforts must be made to avoid any "circulation of oxygen to the brain" so that the patient will die soon if he or she is not dead yet. In the EPR method the trauma surgeon attempts to repair the sources of the bleeding (likely gunshot wounds), and then replace the cold solution with blood while rewarming the patient, who now, it is asserted, has at least an outside chance to survive. EPR gained national publicity when it and the principal investigator (PI) Sam Tisherman were the subjects of a flattering *New Yorker* article by Nicola Twilley last Thanksgiving (Twilley 2016). Dr. Tisherman, the *New Yorker* reported, had moved from Pittsburgh, PA (where he was when Prabhu and colleagues wrote their commentary), to Baltimore, MD, because the higher incidence of gun violence deaths gave him a greater probability of trying out his protocols (Twilley 2016). Organ procurement is a powerful rationale for many novel ways of continuing circulation in a corpse for the sake of obtaining organs to transplant—but can it justify either or both uDCDD and EPR?

In the early 1970s, Paul Ramsey was probably the most articulate ethicist who argued for limits on organ procurement. But his objections to a "triumphalist temptation to slash and suture our way to eternal life" could seem quaint and out of touch with clinical practice (Ramsey 1970, 238). Today, ice in emergency medicine is all the rage, and it was probably inevitable that extreme measures, such as draining all of the blood from a body and replacing it with a cold solution, would be suggested. The overly optimistic company Alcor has for decades sold space in subzero containers for recently deceased whole bodies (or just a head, for considerably less money) until such time as nanotechnology and medical advances may permit the frozen body to be reanimated. Don DeLillo, in his latest novel *Zero K*, imagines a future in which potentially millions of people will "live" for centuries in suspended animation—with some floating semblance of consciousness (DeLillo 2016, 256). Shouldn't opportunities like these, and uDCDD and EPR, be available to those who want them?

Both uDCDD and EPR are extreme and unusual, even bizarre, experiments—one treats newly deceased human bodies as a means to other people's ends, and the other will likely result in death, or perhaps even worse, a brain-compromised or comatose survivor. We suggest that extreme experiments like this should never be done without the informed consent of the individual and his or her family (who could be left with a profoundly brain-compromised relative) (Annas 2014). To waive consent confuses treatment and research, and seems to put us in a situation in which there are no limits to what experiments physicians can do on their patients. The commentators are correct that Food and Drug Administration guidance provides an exception for informed consent for experiments conducted under the rubric of "emergency research," but this guidance was always questionable, founded as it was on the false legal belief that people "imply" consent to treatment in an emergency. But people don't imply anything by having a cardiac arrest or getting shot: instead, the law is that emergency department physicians have a "privilege" to treat unconscious people in emergencies without consent. It should be emphasized, however, that the privilege only extends to "reasonable therapeutic interventions," not to extreme experiments.

The commentators suggest that inner-city racial minorities—"particularly African Americans"—have historically been suspicious "regarding the fairness of the organ procurement and transplantation system." They are, of course, correct. But we think they are wrong to suggest that this suspicion is the result of urban myths and conspiracy theories, such as the one they recount regarding how Governor Robert Casey (governor of Pittsburgh's home state) got his heart/liver transplant with organs from a young African American gang member who had been beaten to death (true) on orders from someone seeking organs for the governor (false). But false stories are not the problem, true stories are. As recounted in the *New Yorker* article, for example, the community consultation for EPR in Baltimore encountered only two people who voiced objections: Both were "young black men." This is, of course, directly relevant since they represent the most likely population from which emergency gunshot victims from Baltimore will come. One of them told Tisherman, "Y'all heard me say no," and the other told him, "We're guinea pigs—your body language says it!" (Twilley 2016, 43). It appears the institutional review board either simply ignored the dissents, or concluded that wearing a red rubber bracelet saying "No to EPR" was a sufficient opt-out opportunity to justify the experiment. On the other hand, these young men do support the commentators' proposition that there is considerable distrust of medicine in the African American community.

Even without the almost obscene idea of exploiting poor, unconscious black people to test an extreme medical hypothesis in the city that is home to a much less extreme, but still disturbing, exploitation of Henrietta Lacks, neither uDCDD nor EPR meets the test of basic human dignity (Skloot 2010). Neither qualifies as a procedure that should be performed on human beings—alive or dead. Of course we will be accused of being heartless in our own way,

condemning gunshot victims to die, and ignoring the plight of the thousands of people waiting for a new lease on life that an organ transplant might give them. Our response is that organ transplantation is not the most important thing that happens in medicine or life. It is, as Lewis Thomas put it well, at best a "half way technology" (Thomas 1971), not something we should sell our soul to pursue at any price. And there are alternative ways to "save lives." Better, we think, to concentrate on reducing gun violence and promoting gun safety in an effort to prevent the horrors that seem to call on us to melt our ethics and adopt novel, extreme, and disturbing protocols. ■

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How Can You Be Transparent About Labeling the Living as Dead?

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Recent developments in resuscitation—for example, emergency preservation and resuscitation (EPR), mechanical chest compression, and out-of-hospital extracorporeal membrane oxygenation (ECMO)—show that some therapeutic options are available for victims of sudden circulatory arrest on whom traditional cardiopulmonary resuscitation efforts have failed. In countries where uncontrolled donation after circulatory determination of death (uDCDD) protocols have been developed, nonconventional resuscitative techniques may coexist with uDCDD. A number of publications have addressed this situation (Ortega-Deballon et al. 2016), including recent recommendations on the use of ECMO for therapeutic purposes or for uDCDD (Dalle Ave, Shaw, and Gardiner 2016).

EPR and uDCDD protocols have similar eligibility criteria and share many technical procedures, but differ in their purpose. Hospitals with expertise and resources in both protocols are faced with the choice of attempting to save the lives of seriously injured patients or, alternatively, declaring them dead based on cardiopulmonary criteria so that they become potential organ donors (Prabhu et al. 2017). Prabhu, Parker, and DeVita describe some of the ethical problems that arise in that coexistence, including those related to conflicts of interests and challenges to community trust, and suggest public education and institutional transparency as the proper way to deal with them. However, they overlook a further considerable challenge for transparency and trust raised by the overlap between these two protocols. The problem is that the determination of death required by uDCDD protocols (especially in same clinical setting as EPR) depends on a criterion of death that is so contingent on a variety of cultural, social, and moral values as to be arguably absurd. The idea that the same patient would be regarded as dead if a decision is made to proceed to uDCDD, but alive if EPR is attempted, flies in the face of the conventional understanding of death as a biologically based, irreversible, and objectively determined state. This is problematic for a number of reasons.

First, by claiming that patients who meet eligibility criteria for both protocols necessitate "a clinical decision to pursue one or the other," Prabhu and colleagues assume that there is a great deal of discretion in death determination. But on the standard understanding of the concept, diagnosis of death should be a judgment based on scientifically proven information showing that it would be

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