

Arrest of Transplant Surgeon Raises Concern Regarding Organ Donation After Cardiac Death Procedure

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The recent arrest of California transplant surgeon, Dr. Hootan Roozrikh, once again highlights concerns over the approach to organ donation involving a donor whose heart has stopped beating but may not have been declared dead by neurological standards. Dr. Roozrikh is charged with dependent adult abuse, administering a harmful substance and unlawful prescribing of sedatives, all felony violations, in connection with an organ donation procedure in 2006.

Throughout history, people have been declared dead using cardiovascular criteria. Advances in artificial respiration technology such as ventilators in the 1950's and successful organ transplantation technology in the 1960's lead to the development of a neurological definition of death. Prior to this time, all organs were obtained either from voluntary living donors or from patients declared dead after "irreversible cessation of cardiopulmonary function."¹ The concept of a determination of brain death resulted from fears that people who suffered irreversible cessation of the entire brain, including the higher brain and the lower brain, could remain connected to ventilators indefinitely. These events were the impetus for a 1968 report called "A Definition of Irreversible Coma" drafted by the Ad Hoc Committee of the Harvard School of Medical to Examine the Definition of Brain Death.² Over the past forty years, brain death has become "part of the legal definition in virtually every state, either by passage of a law, or through a court's adoption of such a rule."³

Every year thousands of individuals die while waiting for an organ transplant that would have otherwise saved their lives.⁴ The vast majority of organs obtained for transplantation are retrieved from "cadaveric" donors or donors who have been declared legally dead due to irreversible cessation of all functions of the brain. For these donors, organ procurement happens while the patient is connected to artificial respiration; the event of death is considered to have already happened. However, in the United States there are significantly more people who experience death the "usual" way, or by cessation of cardiac or respiratory functions.⁵ Given the increasing gap between the number of people needing organs and the number of organs available for transplantation,

¹ Jerry Menikoff, *The Importance of Being Dead: Non-Heart-Beating Organ Donation*, 18 ISSUES IN LAW & MED 3-20 (2002).

² Harvard Ad Hoc Committee, *A Definition of Irreversible Coma: Report of the Ad Hoc Committee of the Harvard Medical School to Examine the Definition of Brain Death*. 205 JAMA 337-340 (1968). The clinical criteria of "brain death" included: 1) unresponsiveness to externally applied stimuli and inner need; 2) absence of spontaneous muscular movements or spontaneous respiration; and 3) no elicitable brainstem reflexes.

³ Menikoff, *supra* note 1.

⁴ United Network for Organ Sharing, <http://www.unos.org> (last visited August 31, 2007). UNOS reports as of 8/31/07 there are 97,128 people waiting for organs. Between January and May of 2007 there have been 11,749 transplants involving 5,872 donors.

⁵ Menikoff, *supra* note 1.

many in the organ donation community are seeking ways to narrow this gap. Revisions to the Uniform Anatomical Gift Act, which most states use to govern organ donation, have focused on strengthening support for facilitation of donating organs. Among these revisions, some of the more controversial include clarification that a person's decision to be an organ donor cannot be revoked by anyone else and that a directive to be an organ donor may override end-of-life care decisions in an advance directive.⁶ For example, patient directive includes a desire not to be ventilated nor receive other life-sustaining treatment, if they have also signed an organ donation card, the patient may be connected to life support long enough to retrieve their organs for donation. Most recently, there has been a return to retrieving organs from "non-heart-beating" donors or donors who have been declared dead using circulatory criteria rather than neurological criteria. This procedure raises several legal, ethical and policy related issues.

Donation after cardiac death (DCD) occurs when "organs are recovered from a donor who does not meet the criteria for brain death but is declared dead following irreversible cessations of circulatory and respiratory function."⁷ Cessation of functions is determined by an "absence of responsiveness, heart sounds, pulse and respiratory effort."⁸ The critical issue in DCD is timing. Once the heart stops beating or a person stops breathing, blood ceases to circulate through the body resulting in loss of oxygen to the organs causing almost immediate deterioration of the tissue. It is important that organs designated for transplantation are removed within minutes of determination of death. This creates a potential conflict of interest between the attending physician whose duty it is to "do no harm" to the patient, and the transplant team whose interest is providing the donee with a viable organ for transplantation. In fact, all parties involved in this type of organ retrieval process "walk a careful line between advocating effectively for those who need transplants and violating ethical boundaries meticulously calibrated to protect dying patients and their families."⁹

In 1992 the University of Pittsburgh was one of the first institutions to develop a protocol for retrieving organs from non-heartbeating donors.¹⁰ Five years later, the Institute of Medicine recommended that an observation period of five minutes be completed before issuing a declaration of death was sufficient. Limited clinical data suggests that "spontaneous circulation does not return after 2 min[utes] of cessation of circulation" leading to a recommendation that for DCD "at least 2 minutes of observation is required, and more than 5 minutes is not recommended."¹¹ In practice, at some hospitals doctors

⁶ National Conference of Commissioners on Uniform State Laws, *Revised Uniform Anatomical Gift Act* (2006), available at http://www.law.upenn.edu/bll/archives/ulc/uaga/2006annualmeeting_approvedtext.htm.

⁷ M. Susan Mandell, et al, *National Evaluation of Healthcare Provider Attitudes Toward Organ Donation After Cardiac Death* 34 CRIT CARE MED 2952-2958 (2006).

⁸ *Id.*

⁹ Rob Stein, *New Zeal in Organ Procurement Raises Fears*, Washington Post, Sept. 13, 2007, A1.

¹⁰ University of Pittsburgh Medical Center, University of Pittsburgh Medical Center Policy and Procedure Manual, *Management of Terminally Ill Patients Who May Become Organ Donors After Death*. 3 KENNEDY INST ETHICS J A1-A15 (1992).

¹¹ J.L. Bernat, et al., *Report of a National Conference on Donation After Cardiac Death* 6 AM. J. OF TRANS. 282, 281-291 (2006).

wait three minutes, at others two minutes and at Children's Hospital of Denver they wait "75 seconds before starting to remove hearts from infants."¹²

Most recently, the United Network for Organ Sharing (UNOS) adopted a set of "model elements" that Organ Procurement Organizations (OPO) must include in their protocols for recovering organs using the donation after cardiac death procedure. Specifically, the model elements address the separation of duties of the transplant team from the care providers, specifying that no member of the transplant team shall be present for the withdrawal of life-sustaining measures, and that no member of the organ recovery team or organ procurement organization staff may participate in the guidance or administration of palliative care, or the declaration of death.¹³

California has codified this model element by requiring that "neither the physician or surgeon who attends the donor at death nor the physician or surgeon who determines the time of death may participate in procedures for removing or transplanting a part..."¹⁴ Hospitals licensed in the state of California should have implemented policies for DCD in accordance with California law. However, in the case involving Dr. Roozrokh and Sierra Vista Regional Medical Center, it appears no policies were in place as the hospital had never before performed an organ donation after cardiac death procedure.¹⁵ According to court documents, Dr. Roozrokh and his transplant team were already in the operating room before a Sierra Vista physician had arrived. Despite the statement of Thomas Mone, president of the Association of Organ Procurement Organizations, that although there is a fine line "we make sure we never cross it,"¹⁶ documents indicate it was Dr. Roozrokh who gave the order to the respiratory therapist to remove the donor from life-support.¹⁷

The organ donor suffered from a lifelong neurological disorder and had experienced cardiac arrest prior to the donation after cardiac death procedure. Dr. Roozrokh, working on behalf of the local organ procurement agency California Transplant Donor Network, ordered staff to administer morphine and the sedative, Ativan, to make sure the patient did not suffer as life support was withdrawn.¹⁸ However, once the donor was removed from the ventilator, cessation of cardiopulmonary function did not occur. Although additional narcotics were given to the donor, he did not die until the next day, far longer than within the 30 minute timeframe required for organ donation. The coroner ruled that the patient died from natural causes. Although the recommended revisions to state anatomical gift acts and the resurgence of DCD procedures are focused on bridging the gap between the demand for and the supply of organs, this case indicates that without

¹² Rob Stein, *New Trends in Organ Donation Raises Questions; As Alternative Approach Becomes More Frequent, Doctors Worry That It Puts Donors at Risk*, Washington Post, March 13, 2007, A3.

¹³ United Network for Organ Sharing, *The Role of the OPTN/UNOS in the Evolving Practice of Donation after Cardiac Death*, July 30, 2007, <http://www.unos.org/news/newsDetail.asp?id=908>.

¹⁴ Cal. Health & Safety Code § 7154(b) (2007).

¹⁵ Charles Ornstein, *Doubts about a transplant team; Nurse tells investigators she was troubled by the behavior of the visiting physicians preparing to harvest a man's organs*. L.A. Times, August 7, 2007, B1.

¹⁶ Stein, *New Zeal*, *supra* note 9.

¹⁷ Menikoff, *supra* note 1.

¹⁸ Stein, *New Trends*, *supra* note 12.

implementation of counter-balancing policies within the hospital, the thin line may be crossed over, leaving patients, as future donors, without adequate protections.