

2002

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### Repository Citation

Warfield, Ted A. (2002) "When Doctors Kill Patients: Vital Organ Transplants," *Philosophic Exchange*: Vol. 32 : No. 1 , Article 1.  
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*Ted A. Warfield*

# When Doctors Kill Patients: Vital Organ Transplants

Ted A. Warfield

## I. Introduction.

This paper is part of a project in which I try to figure out, for purposes of moral evaluation, what is happening in a variety of important medical situations involving patients who are in different ways “near death.” I begin with methodological reflections. There are different approaches one might take to the philosophy of medicine and applied medical ethics. I think it is a mistake to begin a discussion in this area with a description of the moral question being addressed (and perhaps even an answer to that question) and then to incorporate medical information on an *ad hoc* basis in the service of addressing the pre-identified issue and/or position. I think a much better approach requires that one first dive into an area of medical practice, figure out at a fairly refined level what is going on in that area of practice, and only then attempt to formulate and address the moral issues that one encounters.

I contrast my approach with the approach taken by most “popular” medical ethicists, most theologians who work in this area, and also a non-trivial fraction of the more sophisticated commentators. Without carefully attending to medical practice and surrounding conceptual issues, many commentators jump right into the medical ethics arena, declare on an *a priori* basis what the moral questions and norms are, and quickly offer and defend answers to these questions. The worst of these “medical ethicists” first make a moral judgement about some matter and only then go on to try to figure out what is happening. Under this flawed methodology, descriptions of what is happening often have to be contorted to fit the predetermined formulation of the questions and the predetermined answers to those questions.

I’m going to take a philosopher’s look at what is happening in some areas of transplant medicine. I’ll gesture at some of the key moral issues as they begin to come into view but I won’t attempt to resolve these issues. If all of this sounds too slow and boring for you and what you want are quick and easy answers to questions that in fact have many layers of scientific and moral complexity, you’ve come to the wrong person for answers. If you want quick and easy answers to questions in this complex territory, I submit that you’ll have to get them from those who adopt the methodology that I have explicitly rejected. I doubt that you’ll learn much about morality or medicine in that way but, well, at least you’ll get your quick answers.

## II. Some Information and Overview.

I’m going to discuss a couple of issues arising in transplants of two of the so-called “vital” organs. I’ll say a bit about ordinary heart transplantation and then a bit about a certain type of whole liver transplantation. I’ll be focusing initially on the declarations of the death of the organ donor that commonly precede these procedures. Here’s the standard, though admittedly a bit loose,

account of what a “vital” organ is: a vital organ is an organ the removal of which would, under typical conditions, lead to the death of the possessor of the organ. Perhaps we can increase our understanding of this notion some simply by listing some vital organs — heart, liver, pancreas — and by contrasting the vital organs with the paradigm case of a non-vital organ — the (paired) kidney.

Most of my discussion will concern heart transplantation (the heart being, among the commonly transplanted organs, the clearest case of a vital organ). I’ll turn to whole liver transplantation when I discuss the practice of “non-heart beating” transplantation (transplant after cardiac arrest of the donor). I’ll do this not because this is a common setting for liver transplantation but rather because this is the kind of vital organ transplant most commonly done in a non-heart beating transplant situation.

As of September 21 of the year 2001, 4181 individuals in the United States were waiting for a heart transplant (an additional 212 individuals were waiting for a combined heart-lung transplant). Another 18,411 people were waiting for some kind of liver transplant. In the year 2000, 2,246 heart transplants were performed (including 48 heart-lung transplants) and 4,954 liver transplants were performed.<sup>1</sup> Given that in many cases lives are literally hanging in the balance, the backlogs for these procedures are nontrivial and it is against this background that discussions in this sensitive area must take place. The practical pressures of people needing organs and others wanting to save lives through donation and transplantation cannot be ignored. These practical pressures, however, neither tell us what is happening in various transplantation situations, nor guarantee that what is happening is what should be happening. Let’s have a closer look at some of what is happening.

I’ll begin by examining the normal practice of declaring death on neurological grounds before removing a heart for transplant. I claim that in most cases the declarations of death, though consistent with currently accepted medical standards for making such declarations, are not justified given the current legal and medical definition of death in the United States. I will move on to look at whole liver transplants preceded by declarations of death on circulatory-respiratory grounds. I will once again argue that the declarations of death in these situations are not justified. In both situations I’ll argue that the declarations are not justified because they are premature.

These are not moral points; these are points about how current medical practice and guidelines for declaring death fit, or do not fit, with the current medical / legal definition of death. These points are also not entirely new (though some of my commentary is different from others who have made similar factual points). These criticisms raise the following question and many of my fellow commentators have taken up this question as well. Given the problems with the declaration of death in these transplant cases doesn’t it follow that those performing transplants are violating the so called “dead donor” rule – a rule saying, roughly, that vital organs may only be removed from those properly declared to be dead? Indeed, one might hastily add, doesn’t it follow that those performing the transplants are killing the organ donor in such cases? At

a minimum these issues need to be addressed.

These questions about possible violations of the dead donor rule and about doctors killing patients sound like they might be moral questions. Rather than jumping right in and trying to identify and answer these candidate moral questions, I want to claim that we haven't seen that we are faced with any genuine well formed moral question just yet. We don't have a proper moral question on the table until we can either fill in the specific content of the dead donor rule or show that doctors are indeed killing patients when doing some transplants.

The dead donor rule isn't, however, something we can simply look up in a medical or law text. The rule is not, for example, a part of the widely accepted Uniform Anatomical Gift Act. It is rather a loose "rule" carved out of a complicated interplay of medical practice and traditions. Because of this, it is only after achieving a clearer picture of medical practice that I even might be ready to identify a specific content for the dead donor rule. It is only after specifying the content (or a partial content) of this rule that I'll be at all prepared to formulate and confront moral questions about possible violations of the rule. Similarly, whether anyone is killing anyone during transplants is an unsettled question. Before I'm willing to entertain the question of whether such killings are morally objectionable, I prefer to first try to determine if any killing is going on.

After discussing the relevant declarations of death in sections III and IV, I will go on, in section V, to ask what the content of the dead donor rule is. Having specified a partial content for this rule, I will ask, in section VI, if any doctors are killing patients by removing organs. I'll close with some thoughts about changes that could help us sidestep worries about donors being killed during transplant procedures.

### **III. Declarations of Death in Typical Cases of Heart Transplantation**

With some interesting exceptions that will come up in Section V, standard practice for vital organ transplantation in the United States seems to include some sort of requirement that the death of the donor be properly declared before harvesting vital organs. Before, for example, your heart is removed for transplant to another, a physician will likely declare that you are dead. In almost every case of heart transplantation this declaration will be made on neurological grounds.

Apparently with a guiding definition of organismic death as the loss of integrative unity of the organism as a whole, The Uniform Determination of Death Act (hereafter, the "Death Act") provides criteria for declaring death. The Death Act says, among other things, that:

An individual who has sustained either:

(1) irreversible cessation of circulatory and respiratory functions

or

(2) irreversible cessation of all functions of the entire brain, including the brain stem

is dead.

Note that the focus here is on genuine “functioning” – the President’s Commission quite properly distinguished between *functioning* (“organized and directed activity”) and mere *activity* which of course might persist in a body though the organism has died.<sup>2</sup>

I confess that I am not a fan of the Death Act. Unlike most philosophers who typically argue that the Death Act is too conservative (failing to classify as dead some who are truly dead), I prefer more restrictive criteria of death. On my view the Death Act makes it too easy to declare death. I believe that “irreversible cessation of circulatory and respiratory functions” predicts death, but is not sufficient for death. Furthermore I’d prefer broadening the “whole brain” account given in clause (2) of the Death Act statement to include irreversible cessation of all central nervous system functioning (not just brain functioning). But I’m not going to fight this battle today. Today I will not use my “external” criticisms of the Death Act to make my case. I claim that even given the permissive account of death contained in the Death Act, declarations of death in typical vital organ transplant cases are unjustified.

A quick inspection of the Death Act statement shows that there are two ways to ground declarations of death: in the circulatory/respiratory clause and in the neurological clause. Declarations of death that precede most heart transplants are, as I said, made on neurological grounds. My claim is that such declarations are, in most cases, unjustified. My reasoning is simple: there is well documented, undisputed, and wholly convincing evidence of persistent brain functioning in *typical* cases of declarations of whole brain death. Declaring death on neurological grounds when one knows that not all brain functioning has ceased is clearly incompatible with the requirements of the Death Act.

It is not hard to argue that most declarations of death on neurological grounds that precede heart transplants are not justified. It is well known, and has been known since at least the early 1980s, that genuine brain functioning persists in even typical cases when death is declared on neurological grounds following standard diagnostic criteria.<sup>3</sup> The clearest case for this claim can be made by attending to pituitary gland functioning. A series of unchallenged studies from the early 80s and into the 1990s confirms that patients first meeting standard whole brain death diagnostic criteria typically retain pituitary functioning.<sup>4</sup>

Neurologically regulated secretion of a variety of hormones after properly made whole brain death diagnoses is well confirmed. Commentators have typically focused, for ease of discussion and because the facts are so well documented, on posterior pituitary regulation of vasopressin (ADH, anti-diuretic hormone) secretion.<sup>5</sup> There is no non-brain possible source of this regulation and this regulation is clearly genuine *functioning* and not merely *activity*. This functioning is centrally important to the maintenance of the body’s water homeostasis and is therefore of deep importance to the maintenance of the organism as a whole. The well documented failure of a large percentage of patients recently diagnosed as brain dead to show signs of diabetes insipidus for a considerable time period after the diagnosis shows that vasopressin regulation is maintained after the declarations of death. Posterior pituitary functioning



is therefore present in such cases.<sup>6</sup>

In addition to the well documented pituitary functioning, two other examples of at least possible brain functioning commonly seen after declarations of brain death made in accordance with current diagnostic procedures are worth mentioning:

(1) A nontrivial minority of those diagnosed as brain dead (again, using standard diagnostic tests) continue to generate electroencephalogram readings at least consistent with continued brain functioning. (Perhaps these readings result from mere “activity” however).<sup>7</sup>

(2) Since at least the mid-1980s (and surely before then too!), transplant team members have noted that “brain dead” diagnosed donors often react to significant incision with a noticeable increase in both blood pressure and heart rate. This at least suggests to many commentators that “integrated neurological function at a supraspinal level may be present.”<sup>8</sup>

Given the unchallenged status of this information (especially the information about pituitary functioning), I think it is safe to conclude that typical pronouncements of “brain death” following the standard diagnostic protocol are unjustified declarations of “irreversible cessation of all brain functioning” as required in the Death Act. I am aware of two primary attempts to get around this somewhat dramatic conclusion: a theoretical attempt and a practical attempt.

The theoretical maneuver that I have in mind claims that when the Death Act states that death can be declared on neurological grounds when and only when all brain functioning has irreversibly ceased, it doesn’t mean this. Some have suggested that what the Death Act actually means by “all brain functioning” isn’t “all brain functioning” but rather “all critical brain functioning.” “Critical brain functioning” is understood like this: brain functioning is critical if and only if the absence of such functioning will quickly lead to death if untreated.<sup>9</sup> Those making this proposal go on to argue, plausibly, that the persistent brain functioning known to exist in those recently declared brain dead is not “critical” in this sense.

This theoretical suggestion is not credible. What is silly about the proposal is the initial suggestion that the Death Act means “all critical functioning” by “all functioning.” If the authors of the Death Act had meant “critical functioning” we can safely assume that they would have said so. Furthermore, the diagnostic tests used to diagnose irreversible loss of all functioning have been poorly chosen if what is really meant by “all functioning” is “all critical functioning.” On this strained reading, one can only wonder why standard brain death diagnostic procedures require a check for pupillary light response. This physiologically trivial reflex is in no way linked to any critical functioning.<sup>10</sup>

This move to “critical functioning” would perhaps be more promising if it were put forward as a proposed revision of the Death Act. The proposal, understood as a revisionist proposal, suffers from at least two defects. First, I am aware of no plausible definition of death corresponding to this proposed change in criteria. Recall that the Death Act criteria benefits from being associated with the definition of death as “loss of integrative unity of the organism as a

whole;” the “critical functions” criteria has no associated definition. Second, this proposal is consistent, as far as I can tell, with there being “conscious corpses” – the brain functions subserving consciousness are not “critical” functions and could at least theoretically be retained (at least briefly) after all “critical” functions are lost. In any event, when viewed as a revisionist proposal this critical functions view is simply not relevant to my thesis that given the *current* legal/medical criteria for death as spelled out in the Death Act, the declarations of death preceding most heart transplants are not justified.

I spend this time on the “critical functioning” maneuver because this suggestion has generated confusion in even some of the most important standard literature on the diagnosis of brain death. In April of 2001 the *New England Journal of Medicine* published an important review of the state of the art on diagnosing brain death.<sup>11</sup> In the editorial preceding the article, A.M. Capron briefly takes up the challenge that persistent hormonal regulation seems to present to current diagnostic practices. Referring to such brain functioning, Capron writes:

some biologic activity, which the commentators believe constitutes important brain functions, remains in some bodies found to have suffered an ‘irreversible loss of all functions of the entire brain.’ If a particular activity were so physiologically integrative that it would have to be absent before death could be declared, then measures of that activity should be included in the diagnostic criteria. Other experts on the functioning of the brain, however, have remained unconvinced that the lack of testing for various hormones amounts to a flaw in the accepted criteria.<sup>12</sup>

The confusion here should be obvious. Disagreements about how important or “physiologically integrative” various brain functions are irrelevant in the diagnosis of death as specified in the Death Act. Justified declarations of brain death given the content of the Death Act seem to require the exclusion of the well documented pituitary functioning.

Let’s turn away from the unsuccessful theoretical attempt to avoid the problem of unjustified declarations of brain death and towards a “practical” attempt to avoid this problem. The most promising practical attempt at avoiding the problem begins by focusing on a part of the Death Act that immediately follows the earlier quotation: “A determination of death must be made in accordance with accepted medical standards.” Some commentators have suggested that because “accepted medical standards” permit the diagnosis of whole brain death despite knowledge of ongoing brain functioning, the declarations of death in these circumstances are justified.<sup>13</sup> Let’s consider this suggestion.

As noted earlier, strong evidence concerning ongoing hormonal regulation in allegedly whole brain dead patients has been widely available since at least the early 1980s. This has led, at least since the early 1990s, to questions being raised about the adequacy of current diagnostic testing for brain death and/



or the need for revisions in the Death Act. Surely the medical community couldn't simply ignore evidence of ongoing brain functioning in those being declared to have irreversibly lost all brain functioning.

The medical bureaucracy did, for a surprisingly long time, simply ignore this troubling situation. But in 1995, the American Academy of Neurology took action. In a 1995 "special article" in the journal *Neurology*, the Quality Standards Subcommittee of the Academy issued a statement entitled "Practice Parameters for determining brain death in adults."<sup>14</sup> Citing the need for "standardization of the neurologic examination criteria for the diagnosis of brain death," the committee released its report. As a part of its report, the committee listed, without commentary, explanation, or references, seven "clinical observations compatible with the diagnosis of brain death." One of the items on the Academy's list is "absence of diabetes insipidus." Now, as already mentioned, the absence of signs of diabetes insipidus in an allegedly brain dead body is strong evidence of ongoing brain functioning. One is left wondering how the Academy, or anyone else, can simply declare that evidence of this sort is, in general, "compatible with the diagnosis of brain death." This is the equivalent of declaring that convincing evidence of ongoing brain functioning can be ignored when determining whether or not all brain functioning has irreversibly ceased.

I hardly know what to say in a situation like this. Imagine, for the philosophers present, a subcommittee of the American Philosophical Association issuing a statement saying that "from now on, for purposes of deciding whether Knowledge is justified true belief, Gettier counterexamples can simply be ignored." For everyone, imagine your bank telling you that for purposes of declaring whether your account is overdrawn, they can simply ignore the large deposit that you made before writing any checks. Or imagine your mechanic telling you that for purposes of declaring whether he has fixed your car, he can simply ignore strong evidence that the starter is defective. The American Academy of Neurology saying that convincing evidence of persistent brain functioning can be ignored for purposes of declaring that all brain functioning has ceased doesn't make it so.

What we really have here is a case where the two clauses I've quoted from the Death Act have grown apart. On the one hand, the neurological criterion for death is clear — "all brain functioning" must be irreversibly lost — and this at least strongly suggests that declarations of death on neurological grounds in the presence of pituitary functioning are unjustified. On the other hand, the clause noting that declarations of death are to be made in accordance with accepted medical standards seems to justify doctors in following the guidelines which say that they can ignore at least some pituitary functioning when declaring brain death. In sum, medical guidelines and practice have deviated widely enough from the Death Act that doctors are in somewhat of a state of limbo when declaring death preceding a heart transplant.

It seems to me that one of three things needs to happen here. Either we need to add tests to the diagnostic protocol for determining brain death (thereby delaying such declarations and slowing down organ procurement), or we need to

change the Death Act, or we need to get comfortable with the idea of removing hearts in typical heart transplant scenarios before issuing declarations of the death of the donor. I'll return to these options later, at least indirectly, when I discuss the "dead donor rule" and make final recommendations.

#### **IV. Declarations of Death in Non-Heart Beating Transplantation.**

Non-heart beating transplantation is currently quite rare. Only about 2% of all transplants utilize non-heart beating donors and vital organ transplants from non-heart beating donors are an even smaller percentage of the total. Heart transplants are almost never done in this way (damaged heart). Liver transplants are the most common form of vital organ transplant done in this way but such liver transplants are a small percentage of all liver transplants (only 39 such transplants occurred in 2000, but this is up from only 9 in 1993).<sup>15</sup> Despite the fact that vital organ transplants in a non-heart beating situation are so rare, I want to say something about the declarations of death being made as a part of such procedures for four reasons.

First of all, these declarations of death have been the subject of controversy since the early 1990s or so when it became clear that non-heart beating transplantation was making a comeback. Second, non-heart beating transplantation is viewed by many as a potentially fruitful source for meeting the increasing demand for organs.<sup>16</sup> Third, because of modifications in the protocols for non-heart beating transplantation, organs procured in this way are no longer always clearly inferior to those that come from donors declared dead on neurological grounds. And fourth, the National Academy of Science/Institute of Medicine has recently released a second updated practice and protocol booklet for non-heart beating transplantation which suggests that this area of transplant medicine is becoming somewhat respectable.<sup>17</sup>

Though lots needs to be said about the practice of non-heart beating organ transplantation, I'll limit myself on this occasion to an examination of the declarations of death in these situations. The practice I want to focus on is so called "controlled" non-heart beating transplantation. Here's a brief description from the recent Institute of Medicine report:

In controlled non-heart-beating donation, a decision is made to discontinue life-sustaining medical intervention. .... A separate decision is made to donate organs after death. Life-sustaining treatment is discontinued, although measures to maintain the quality of the organs ... may be undertaken. Death is declared when cardiopulmonary function ceases. Organs are removed after death has been declared. (p.9)

In practice, after life-sustaining medical intervention is withdrawn and the heart of the patient stops, doctors wait 2-5 minutes and then declare death on circulatory-respiratory grounds.<sup>18</sup>

Recall that the Death Act specifies that an individual is dead if the individual has sustained "irreversible cessation of circulatory and respiratory functions." The declarations of death made in typical controlled non-heart beating pro-

cedures do not meet this standard. It is only through a rather unpersuasive understanding of the word “irreversible” that advocates of this type of procedure argue that the requirements of the Death Act are met.

Defining “irreversible” is harder than one might at first imagine. Furthermore, as others have pointed out in criticizing the Death Act, including the notion of “irreversible” in the criteria of death does raise some nontrivial questions like “irreversible for who? And under what conditions?”<sup>19</sup> However these complexities get sorted out, surely “irreversible” means something modal (something like “beyond our ability to reverse” or “cannot be reversed”).

Those defending the declarations of death in non-heart beating scenarios are united, however, behind a quite novel interpretation of the word “irreversible” in their reading of the Death Act.<sup>20</sup> The relevant loss is “irreversible,” we’re told, because

- A. The waiting period (2-5 minutes in most protocols) takes us beyond the period in which hearts might “auto-resuscitate” (that is, restart on their own, spontaneously), and
- B. The patient’s refusal of medical treatment (and expressed desire to be a donor) imply that it would be *morally* impermissible for anyone to take steps to reverse the loss of functioning.

In other words, the loss is “irreversible” because it will not reverse itself and it would be wrong for anyone to reverse it because the patient requested that this not be done.

There is, of course, medical and social pressure towards as short a waiting period as possible before declaring death in non-heart beating donation scenarios. Given that organ harvesting is begun only after the declaration of death and given that the longer one waits the more likely it is that the organs will be unuseable, it is understandable that the transplant community wants death to be declared as quickly as possible. But the consequences of adopting this partly “moral” analysis of “irreversibility” are absurd. Two patients in identical biological conditions suffering simultaneous cardiac arrest will be classified quite differently (one alive, the other dead) in a case where one asked to be used as a non-heart beating donor and the other asked to be resuscitated. Treating them differently because of their different requests seems quite reasonable (try to resuscitate the one but not the other). Maintaining that one is currently dead and the other is currently alive solely on the basis of their differing requests about how to be treated is truly bizarre and completely unacceptable.

The defenders of the declarations of death in non-heart beating cases are benefitting from general sloppiness in declaring death in those who have entered valid “do not resuscitate” (DNR) orders. Indeed, some individual non-heart beating donation protocols explicitly point to the “demanding” certifications of cardiac death required in these procedures as compared to the typical DNR case. In the typical sloppy case of a non-donor DNR, death will be declared quickly upon observance of informal signs of cardiac arrest (for example, lack of obvious pulse in the carotid artery).<sup>21</sup> Compared to these declarations of death, the declarations in non-heart beating transplant cases look conservative.

The sloppiness of such declarations of death cannot mask the fact that loss of circulatory/respiratory functioning in a typical non-heart beating donor is not irreversible after 2-5 minutes. It is well documented that loss of circulatory/respiratory functioning can be reversed after 15 minutes or more in ordinary cases and after significantly longer periods in controlled experimental and transplant settings.<sup>22</sup>

Examining specific non-heart beating protocols reveals the doublespeak about “irreversibility” that is going on in defense of this practice.<sup>23</sup> The Life Center protocol (Cincinnati, Ohio) for instance, notes that after declaring death “under no circumstances will chest compressions be performed” (they fear cardiac restart). The recently updated Pittsburgh Protocol recognizes that in certain circumstances and with appropriate permissions, one may perform chest compressions after declaring death to help circulate heparin (which promotes blood flow to organs). The protocol goes on to caution that if chest compressions are performed, ventilation must not be provided because it may result in unexpected cardiac resuscitation. In other words, after allowing a declaration of death on grounds that “all circulatory/respiratory functioning has irreversibly ceased” the Pittsburgh protocol notes that the functional equivalent of basic CPR may well lead to cardiac resuscitation.

It seems clear to me that the declarations of death in such cases are unjustified. I have now argued that typical declarations of death in both heart transplant and vital organ non-heart beating transplant situations are unjustified. I turn now to the question of whether, given these facts, the so called “dead donor” rule is being violated.

## V. What is the Dead Donor Rule?

Having argued that declarations of death in both heart transplant scenarios and non-heart beating transplantation settings are typically unjustified, it’s worth asking whether anything going on in either type of procedure violates the so-called “dead donor rule.” Some who agree with me about the sketchy status of the declarations of death in transplant settings have been quick to assert that the dead donor rule is being violated routinely. But I want to slow things down a bit before tossing around serious sounding accusations like that. For one thing, whether the “dead donor” rule is being violated depends on exactly what the rule says.

As explained by Robert Arnold and Stuart Younger, the phrase ‘dead donor rule’ “aptly describes an unwritten, uncodified standard that has guided organ procurement in the United States since the late 1960s.”<sup>24</sup> Many have noted the rule’s informal nature and background, but for some reason few have tried to identify the precise meaning (or meanings) of the rule. This leads to lots of “talking past one another” in the medical ethics literature concerning the rule.

Below I provide five possible understandings of the dead donor rule, mostly drawn from various professional discussions of ethical issues in transplantation. Most of these are defended (when defenses are given) by variations on the theme of “doctors shouldn’t harm patients” or “doctors shouldn’t kill patients.”

Here are the five formulations:

- R1. Never remove a vital organ from someone who hasn't properly been declared dead.
- R2. Never remove a healthy vital organ from someone who hasn't properly been declared dead.
- R3. Never remove a healthy vital organ *from a donor* who hasn't properly been declared dead.
- R4. Never remove a healthy vital organ from someone who hasn't been properly declared dead except as part of a transplant procedure.
- R5. Never cause death by, or for the purpose of, removing organs.

The fact that one is able to find at least these five different interpretations of “the” dead donor rule is pretty solid evidence that this “rule” is either badly misunderstood or simply has no determinate content. Of course one alternative possibility is that the rule means many of the things on the above list. I want to clear away some of the confusion about the rule by eliminating some of the above interpretations of it. I do so by attending to medical practices about which no moral issues have even been raised or about which questions have been raised but quickly settled. The fact that some routine medical practices are clearly acceptable seems to rule out some possible understandings of the dead donor rule.

Consider R1: I give this formulation special place because it seems to reflect the Catholic medical ethics community understanding of the dead donor rule (perhaps when we see the problems for R1 we'll be inclined to charitably interpret the Catholic position as R2 or R3, though these are not without problems). This is clarified in relevant Pontifical Academy of Science writings, in the Ethical and Religious Directives for Catholic Health Care Services, and, most recently, by Pope John Paul II in his August 2000 address to the International Congress on Transplants.<sup>25</sup> Echoing consistent Pontifical Academy pronouncements, the Pope said:

Acknowledgment of the unique dignity of the human person has a further underlying consequence: vital organs which occur singly in the body can be removed only after death, that is from the body of someone who is certainly dead. This requirement is self-evident, since to act otherwise would mean intentionally to cause the death of the donor in disposing of his organs. (Address of August 29, 2000).

I'll take up the question of whether removal of vital organs from living patients means “causing the death” of patients in the next section of this paper. For now, I focus on R1 itself.

One can only wonder what proponents of R1 think about ordinary heart transplantation, for we needn't even consider the physiological status of the *donor* to find clear violations of R1 as stated. In standard orthotopic heart transplantation, the heart of the patient receiving the transplant is removed before the donor heart is inserted. This of course occurs with no declaration

of the death of the recipient. R1 is not a reasonable understanding of the dead donor rule. If it were, it would rule out almost all current heart transplantation.

What about R2? (And note that R1 is equivalent to R2 if one thinks that the phrase “vital organ” implies that the organ is healthy – perhaps this is the Pontifical Academy position?). Ordinary heart transplantation procedures are consistent with R2, because in the typical case of heart transplantation, the heart removed from the recipient is not healthy (that’s why the transplant is being performed). R2 is not, however, a plausible interpretation of the dead donor rule. R2 would rule out fairly routine heart-lung transplants which sometimes involve transplanting a heart-lung complex into a patient who has defective lungs but a healthy heart (after removal of the healthy heart). This is done when overall health and survival prospects for the recipient are judged to be superior with the combination heart-lung transplant.

What about R3? This reading restricts the dead donor rule to prohibiting the removal of healthy vital organs from *donors* and thereby seems to give us silence about what is done to the recipient in both typical heart transplants and in heart-lung transplants. This might raise problems because the dead donor rule so interpreted may well stay silent about matters we want it to govern (but perhaps the slack could be taken up by distinct rules and policies). More substantively, however, R3 is, like its less refined predecessors, not a plausible interpretation of the dead donor rule. In a so-called “domino” heart-lung transplant, the recipient of a heart-lung transplant also serves as a donor (of a healthy heart) which is transplanted in the normal way into yet another recipient needing a heart. This clearly involves the removal of a healthy vital organ from a donor who hasn’t been properly declared dead. No one would suggest though that domino heart transplants are in any way morally objectionable. Each of R1-R3 fails because each forbids procedures that are in no way morally objectionable.<sup>26</sup>

How about R4? This formulation doesn’t run into trouble by forbidding straightforwardly acceptable procedures. R4 faces trouble of a different sort. R4 doesn’t seem to forbid *anything* that is a part of transplantation, but surely the dead donor rule is supposed to in some way limit transplantation activities. Does R4, for example, even forbid removing a heart from a healthy living donor for transplant into a stranger? No it does not. After all, the procedure would be part of a transplant procedure and so not ruled out by R4. R4 appears to be an unacceptably weak formulation of the dead donor rule.

How about R5? This is the most promising suggested understanding of the dead donor rule on my list. This at least forbids some things many people want to forbid - killing in order to remove organs, and killing by removing organs. Additionally, forbidding these activities under something called “the dead donor” rule seems pretty reasonable. Like R4, R5 does not forbid some things that some want to forbid (for example, removing vital organs prior to death in cases where the removal does not cause death). But these activities are the hardest to argue against and we could, if in the end we want to forbid them, do so with an additional rule. Admittedly, one problem for this reading of the



dead donor rule is that one might wonder why any special “transplant specific” prohibition on doctors causing patient deaths is needed: if R5 is *all* that the dead donor rule says, why not just say that transplant medicine is governed like all sound medical practice by the general rule that doctors should not cause the death of patients?<sup>27</sup>

With that possible problem for R5 noted, I’m going to move on, taking R5 to express at least part of what ought to be expressed by anything worthy of the name the “Dead Donor Rule.” I want to know if anything going on in the transplant room violates the dead donor rule. I’ve already argued that the declarations of death being issued in that setting are unjustified (in the sense that they are premature). This doesn’t tell us, however, if anything going on in such situations involves the killing of a patient by, or for the purpose of, removing organs. Let me now turn to this issue.

## VI. When Doctors Kill Patients

Is anyone being killed during the transplant scenarios I’ve discussed? Pretty clearly we have some dead bodies on our hands, the dead bodies of the donors. At least many of those donors were declared dead, or so I’ve argued, prematurely. This does not mean that the donors don’t eventually die: they do. What, if anything, kills these donors?

If one second after issuing an unjustified declaration of the death of a donor, a doctor shot the patient in the head, it would be the resulting head trauma (and therefore the doctor) that killed the donor, and not the underlying injury that merely caused the donor to be in the initial state of incapacitation. Doctors aren’t doing anything quite that dramatic after issuing the unjustified declarations of death. They are, however, immediately turning things over to transplant teams which are coming in and harvesting vital organs as quickly and efficiently as possible. Perhaps the removal of the vital organs kills the patient before the patient has otherwise irreversibly lost either all brain functioning or all circulatory/respiratory functioning.

In the passage quoted earlier, the Pope claimed that in the absence of a proper declaration of death, removing vital organs would cause the death of the donor. The explicit passage was “This requirement [not to remove vital organs prematurely] is self-evident, since to act otherwise would mean intentionally to cause the death of the donor in disposing of his organs.” As a general claim, this is surely too strong. As ordinary heart transplantation shows, removing a heart, for example, does not always kill the one from whom it is removed.

Perhaps, though, some organ transplantation *does* involve the killing of the donors of vital organs by organ removal. Let’s look again at the two types of vital organ transplants I’ve explored with an eye on this issue. Consider first, the non-heart beating transplant of a whole liver. When death is declared on circulatory/respiratory grounds, I have argued, the patient is not yet dead because he meets neither condition in the Death Act sufficient for declaring death. But surely after an hour or so of cardiac arrest the patient could be declared dead on

circulatory/respiratory grounds (the loss of functioning is surely irreversible at that point – I’d guess that the loss is irreversible after a bit less than an hour but the data and literature in this area are thin.<sup>28</sup>) Whether anything that happens during that hour or so kills the patient depends on exactly what is done to the patient and this varies with individual transplant protocols.

As a general thesis though, I’m willing to defend the view that those following reasonably modified procurement protocols in non-heart beating situations could avoid causing the death of the donor by procuring vital organs before properly declaring death. If doctors are explicitly permitted to begin organ procurement before declaring death (so long as the procurement doesn’t cause death) this could easily be accomplished. A donor could, for example, be maintained on artificial life support while the liver is removed. After this, the donor could be disconnected from life support. Death could be declared on circulatory/respiratory grounds after an hour or so of cardiac arrest, long before hepatic failure would be in any way relevant to the death.<sup>29</sup>

In general then, if organ harvesting begins only after cardiac arrest as in current protocols, whether anything going on as a part of non-heart beating donation involves doctors killing patients depends on the precise details of what is done to the donor in the first 30 minutes or so after harvesting begins. If, however, (as would be consistent with the “R5” understanding of the dead donor rule) vital organ removal precedes removal of life support, I see absolutely no reason to think that the donor’s death would be caused by the organ removal.

Turn to heart transplantation. Are any killings happening when hearts are removed after these declarations of death? I do not have sufficient information to immediately and unequivocally conclude that they are, but I do think that we have reason to believe that some killings are taking place.

I do not think, of course, that the removal of the heart of the donor *immediately* causes the death of the donor. It’s surely not that simple. After a bit of time has passed, however, it would be quite plausible to properly declare the donor dead on grounds that he has irreversibly lost all circulatory/respiratory functioning and it is surely the case that the removal of the heart dramatically affects neurological functioning sufficiently so that a declaration of death on neurological grounds may be justified even before the declaration on circulatory/respiratory grounds. Though it’s an empirical matter and not enough information is available to me to speak definitively on the issue, right now I strongly suspect that one of two things will happen after a heart is removed: either (1) brain functioning will continue past the time that the loss of circulatory/respiratory functioning becomes literally irreversible, or (2) brain functioning will be irreversibly lost largely *because of* the loss of circulatory/respiratory functioning caused by heart removal. On either of these scenarios, the removal of the heart would properly be called a cause of death.

The only way to avoid this conclusion is if the first available proper declaration of death is on neurological grounds and the availability of this declaration is in no way caused by the removal of the heart of the donor. As I’ve said, which scenario obtains is an empirical, case by case, matter. Despite this, it

surely isn't wild to suggest that at least some of the time, maybe even lots of the time, one of the two *killing* scenarios is what happens. If one of these happens, doctors are sometimes killing patients by removing hearts.

This whole mess (of trying to figure out what exactly caused death by hunting for the first justifiable declaration of death in cases where someone is close to satisfying both neurological and circulatory/respiratory criteria) could be avoided quite easily. It could be avoided simply by adding relevant diagnostic tests to the standard brain death diagnostic protocol. Wait longer and the signs of pituitary functioning will eventually be lost. Death could then be properly declared on neurological grounds and no removal of a heart at that point would kill a donor. Yes, this would slow down organ procurement in this setting, but the need for speed is less pressing in this type of transplant where there is far less risk of damage to organs as time marches on.<sup>30</sup>

In sum, it's not crystal clear whether anyone is killing anyone by removing their organs, despite the fact that organs are being removed before proper declarations of death. I doubt that anyone is being killed during non-heart beating whole liver transplants and I'm confident that no one needs to be killed in this way if R5 is the proper understanding of the dead donor rule. I suspect that at least some donors are being killed by heart removal during ordinary heart transplants.

Assume that doctors are indeed killing patients sometimes when hearts are removed for transplantation after unjustified declarations of death. Does it follow that anything *morally unacceptable* is going on?<sup>31</sup> I will conclude by saying just two things in response to this important question.

1. I see no positive reason to believe that the killings that are probably occurring are morally unacceptable.
2. I do think, however, that such killings can be avoided at low cost (by waiting and *properly* declaring death before removing hearts), so unless there are reasons for not waiting that I don't currently see, I don't think we'll suffer any great loss by waiting.

Of course, the person next in line for a heart transplant might disagree with this latter assessment. Fair enough; if the fact that this one factor (among many that can delay transplantation in a particular case) could be the "difference maker" between life and death for one awaiting transplant is a good reason not to wait before declaring death then let's not wait. If we choose to move swiftly in these cases, however, let's not pretend that the donor of the transplanted heart is not being killed when his heart is removed.<sup>32</sup>

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<sup>1</sup> All data here are from UNOS (United Network for Organ Sharing) statistics.

Current information is available at the UNOS website: [www.unos.org](http://www.unos.org)

<sup>2</sup> See *Journal of the American Medical Association* 246, 1981: pp. 2184-2186.

<sup>3</sup> For comparison, the date of the President's commission report which introduced the language of the Uniform Determination of Death Act is 1981. The "whole brain"

death approach to death became popular in the United States in the years following the Harvard Commission report of 1968.

<sup>4</sup> One source for early references is A. Halevy and B. Brody, "Brain Death: Reconciling Definitions, Criteria and Tests," *Annals of Internal Medicine* 119, 1993: pp. 5119-525.

<sup>5</sup> Some of the best commentary comes from Halevy and Brody's paper (cited in note 4).

<sup>6</sup> And so, presumably, is the functioning of other structures necessary for this functioning (the hypothalamus and the neurohypophysis).

<sup>7</sup> See R.D. Truog, "Organ Transplantation Without Brain Death," *Annals of the New York Academy of Arts and Sciences* 913, 2000: pp. 229-239 for discussion and detailed references.

<sup>8</sup> The quote is from R.D. Truog's "Is it Time to Abandon Brain Death?" *Hastings Center Report* 27, 1997: pp. 29-32. See the references in Truog for full discussion.

<sup>9</sup> See, for example, J. Bernat "A Defense of the Whole-Brain Definition of Death," *Hastings Center Report* 28, 1998: pp. 14-23.

<sup>10</sup> Truog makes this point well; see his "Organ Transplantation Without Brain Death."

<sup>11</sup> E.F.M. Wijdicks, *New England Journal of Medicine* 344, April 11, 2001: 1215-1221.

<sup>12</sup> *New England Journal of Medicine*, April 19, 2001, 1244-1246. It is worth noting that Capron's references to "other experts" are to articles that do not even discuss ongoing pituitary functioning.

<sup>13</sup> This seems to be Capron's point in the *New England Journal of Medicine* editorial quoted above.

<sup>14</sup> *Neurology* 45, 1995: 1012-1014.

<sup>15</sup> Once again, all transplantation statistics come from the helpful people at UNOS.

<sup>16</sup> It would of course be easier to increase the number of donors who die in this setting than to increase the number who are declared dead on neurological grounds while maintaining circulatory/respiratory functioning.

<sup>17</sup> *Non-Heart-Beating Organ Transplantation: Practice and Protocols*, National Academy Press (Washington DC), 2000.

<sup>18</sup> The Institute of Medicine proposes 5 minutes as a "standard" – some current protocols require only 2 minutes. For example, the current Pittsburgh Protocol which received so much attention in the early 1990s still specifies that 2 minutes of ventricular fibrillation, electrical asystole or electro-mechanical dissociation is sufficient for declaring death.

<sup>19</sup> D. Cole, "The Reversibility of Death," *Journal of Medicine and Ethics* 18, 1992: 20-30.

<sup>20</sup> For one clear example, see J.M. Dubois, "Non-Heart-Beating Organ Donation: A defense of the required determination of death," *Journal of Law, Medicine and Ethics* 27, 1999: 126-136. This also seems to be the Institute of Medicine's view of this issue.

<sup>21</sup> This issue is discussed in many places, including the Institute of Medicine report.

<sup>22</sup> One good discussion of this issue is in S.J. Youngner et al., "When is Dead?" *Hastings Center Report* 29, 1999: 14-21. See this article for primary references on the issue.

<sup>23</sup> I discuss here the sample protocols included in the Institute of Medicine report.

<sup>24</sup> "The Dead Donor Rule," *Kennedy Institute of Ethics Journal* 3, 1993: 263-278.

<sup>25</sup> The Pope's address is online at [www.zenit.org/english/archive/0008/2E000829](http://www.zenit.org/english/archive/0008/2E000829)

<sup>26</sup> A perhaps more plausible suggestion along the same general lines as R1-R3 would be something like "never remove a vital organ from someone who isn't the recipient of a replacement." I leave it for others to explore this possible interpretation of the rule.

<sup>27</sup> This may not, of course, be a sound general principle. I cannot, however, take up a discussion of this issue now.

<sup>28</sup> The article cited in note 22 contains full references to this literature.

<sup>29</sup> Arnold and Youngner discuss this sort of case in their article cited in note 24.

<sup>30</sup> I'm not suggesting that there isn't a need for speed in this sort of case. There are people waiting, some desperately near death, for these hearts. But that's a different kind of need for speed than the need to avoid organ damage.

<sup>31</sup> More precisely, does it follow that anything generally morally unacceptable is going on? It could of course be true that a doctor is impermissibly breaking a promise to particular donor not to remove her heart until after properly declaring death.

<sup>32</sup> I thank Georges Dicker for hosting my visit to SUNY-Brockport. I additionally thank my colleagues in the philosophy department at the University of Notre Dame where I presented an earlier version of this paper. I do not thank my employer, The University of Notre Dame, which has decided not to support me or my research.