

## In defense of a pluralistic policy on the determination of death

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### Abstract

In his paper “The challenge of brain death for the sanctity of life ethic”, Peter Singer advocates two options for dealing with death criteria in a way that is compatible with efficient organ transplantation policy. He suggests that we should either (a) redefine death as cortical death or (b) go back to the old cardiopulmonary criterion and scrap the Dead Donor Rule. We welcome Singer’s line of argument but raise some concerns about the practicability of the two alternatives advocated by him. We propose adding a third alternative that also – as the two previous alternatives – preserves and extends the possibility of organ transplantation without using anyone without their consent. Namely, we would like to draw readers’ attention to a proposal by Robert Veatch, formulated 42 years ago in his 1976 book “Death, dying, and the biological revolution” and developed further in his later publications. Veatch argues for a conscience clause for the definition of death that would permit people to pick from a reasonable range of definitional options. This autonomy-based option, we believe, is more likely to be practicable than the two options advocated by Singer. Furthermore, we present data from a study with Lithuanian participants that suggest that there is quite pronounced variation of preferences concerning death determination.

**Keywords:** death, death determination, dead donor rule, organ transplantation

### Introduction

In his paper “The Challenge of Brain Death for the Sanctity of Life Ethic”, Peter Singer presents – in his usual clear and straightforward manner – an updated version of the views he defended more than twenty years ago in his bold book *Rethinking life and death* (Singer, 1995). Although the claims Singer defends are the same, he has updated his exposition by adding some recent cases and by utilizing arguments and conceptions that were not around at the time the book was published. The main thrust of Singer’s argument is that provided that the whole brain death criterion of death is philosophically indefensible and provided that it is important to have an efficient organ transplantation policy we should either (a) redefine death as irreversible loss of consciousness or alternatively (b) go back to the good old cardiopulmonary criterion and scrap the Dead Donor Rule (DDR), i.e., we need to allow taking organs from people who have irreversibly lost consciousness and have agreed to donate organs in such a condition. We agree with Singer’s objections to the whole-brain death criterion. We think, however, that Singer’s conclusion neither covers all available options nor is practicable.

Let us, first, clarify why we think that Singer’s position is impracticable. No doubt, Singer himself is aware of that. After presenting his arguments against DDR, Singer admits that “the most troubling objection” against his position is a “practical one: no matter how logically compelling the proposal may be, it is so out of touch with political reality that it stands no chance of success” (Singer, 2018, p. 163).<sup>3</sup> We believe that the same objection applies to the other horn of Singer’s dilemma as the so-called higher brain criterion of death seems to be as controversial

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<sup>3</sup> But see empirical study by Nair-Collins, Green, and Sutin (2014, p. 297): “There appears to be public support for organ donation in a scenario explicitly described as violating the dead donor rule.”

as rejection of DDR. Its acceptance – at least in McMahan’s version that Singer uses in his paper – relies on the claim that we essentially are entities with the capacity of consciousness, i.e., minds and not organisms (McMahan, 2012, p. 295).<sup>4</sup> Therefore, we cease to exist as soon as we irreversibly lose the capacity for consciousness and the fact that our organism still functions, i.e., is still alive, is not relevant as far as our death is concerned. But these are highly controversial claims that many people would find rather strange. Moreover, the view has its own philosophical problems as well.<sup>5</sup>

Before we move forward, it is interesting to note, that, while formulated as a disjunction, Singer’s conclusion most probably might appeal to the same arguably narrow demographic. The reason for that is quite simple. Suppose you agree (with McMahan and others) that death is irreversible loss of consciousness or in other words, you accept the claim (a) in Singer’s conclusion. What would you say about the disjunct (b)? Now, if you think that you are dead as soon as you have irreversibly lost consciousness and you have agreed to donate your organs after death, then it turns out that you might accept (b) as well, because (b) states that it is acceptable to harvest organs before cardiopulmonary death. In this case, exactly this happens if organs are harvested after your consciousness is irreversibly lost and you have already agreed to that under (a). Further, after your vital organs are removed you will be dead according to the cardiopulmonary criterion of death which is the criterion of death in (b). And the same move might work in the opposite direction as well. Suppose you believe that you are dead only when your heart stops beating and breathing stops and you also think, that it is acceptable to harvest your organs as soon as irreversible loss of consciousness is diagnosed. What would you think about option (a)? It seems that after giving it some thought you wouldn’t find anything wrong with (a). Of course, according to our hypothesis, you don’t believe that irreversible loss of consciousness means death, but as soon as you agree that your vital organs can be harvested when you are in this condition, what difference does it make? Besides, as soon as your organs are taken you will be dead according to the criterion which you believe to be right. To summarize, if you agree to (a) then you most probably will not object to (b) and *vice versa*. In other words, there seems to be no substantial disagreement between holders of either position. Singer himself admits that both views (a) and (b) have “the same practical outcome” (Singer, 2018, p. 163). Our point is that, unfortunately for Singer, it seems that both views most probably will appeal to the same – arguably narrow – population.

Now, what are our options if brain death criterion is indefensible and Singer’s proposal impracticable? We believe that there are no scientific facts that would dissolve disagreements between those who hold different beliefs about death. The differences between those who, for example, hold a conception of whole brain death and those who embrace higher brain criterion are metaphysical and moral rather than scientific. If that is the case, then there are no good reasons to expect a wide consensus on the issue and the only viable option is to embrace pluralism, i.e., the view that reasonable people may have different conceptions of what does it mean to be dead. Pluralism about this issue has been proposed by several authors (e.g. Miles, 1999, Engelhardt, 1999), however from our point of view the most elaborate and strongest formulation is that of Robert Veatch and Lainie Ross (Veatch & Ross, 2016).<sup>6</sup> We believe that a

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<sup>4</sup> A similar version of higher brain criterion is defended by W. Glannon (2007, pp. 156–170).

<sup>5</sup> See e.g., DeGrazia (2005, pp. 124–141).

<sup>6</sup> The position was originally developed by R. Veatch (see Veatch, 1976; Veatch, 1999). Chapter 6 in Veatch & Ross (2016) is an updated version of Veatch (1999). For this reason, further in the text this view will be associated mostly with Veatch.

view along the lines defended by Veatch and Ross can attain the aim that Singer is after in his paper (i.e., it is compatible with efficient organ transplantation policy) without the shortcomings of Singer's proposal as it stands a better chance to be accepted as a policy.

Veatch has been famous for his defense of the higher brain criterion of death.<sup>7</sup> However, he is well aware that whatever the philosophical merits of higher brain conception of death, one cannot reasonably expect that it will be widely accepted view on death in the current society. But the same applies to both alternatives defended by various authors in biomedical literature – whole-brain death and cardiopulmonary death. Although the whole-brain criterion of death is legally supported in many countries around the world, there are a considerable number of people who still don't share it. Either because they (together with, for example, orthodox Jews or Shintoists in Japan) incline towards the cardiopulmonary conception of death or because as Veatch, McMahan and others they think that the higher brain conception of death is a conceptually more plausible candidate for the role. Provided that there are no good reasons to expect that these different groups will reach a consensus on the issue, the only practicable solution, according to Veatch, is to tolerate the differences and to allow different groups to act on their opinions. Therefore, Veatch suggests that persons while competent should be free within reason to choose the criteria under which they should be considered dead. As there is an indefinite number of theoretically possible conceptions of death, Veatch argues that people should be offered to choose from the three plausible accounts mentioned above, i.e., cardiopulmonary, whole-brain and higher brain. Further, since for different reasons not everyone will make an explicit choice among the offered concepts of death, there must be a default position on death, so that is clear for, e.g., doctors how to proceed in such cases. Veatch proposes that the best candidate for that role is the whole-brain conception. Moreover, in some cases where patients have not made their view on death clear while competent, the decision within certain limits should be made by the next of kin as it is already done in other similar situations.

The same or essentially similar view has been endorsed by other authors as well. For example, individual choice about the definition of death has been defended by Alireza Bagheri (Bagheri, 2007). Bagheri examines the then current Japanese law that in certain situations allow patients to choose between cardiopulmonary and whole-brain death, but this only is permitted for potential organ donors and besides, the choice must be accepted by the members of a family. Bagheri endorses Veatch's view and stresses the importance of respect for the patient's autonomy. Although Bagheri considers only two conceptions of death in the paper (cardiopulmonary and whole-brain) he is open to other candidates as well.<sup>8</sup> A similar position has also been advanced by Sass (Sass, 1992). Like Veatch, he also argues that patients should be able to make the choice between the three conceptions of death with whole-brain death as the default view. But he differs in his view on proxy decision making. According to Sass, proxy decision making about the conception of death should be accepted only in cases of parents deciding about their minor children. Linda Emanuel in her 1995 paper (Emanuel, 1995) argues for what she calls the asymptotic model of death that recommends a bounded zone approach to life cessation. Emanuel rejects the traditional model according to which life and death are poles in binary opposition. This model, she thinks, should be modified. Emanuel suggests that we should think about death as a gradual process that can be depicted more like an asymptotic curve. Accordingly, each of the three mentioned conceptions of death should be considered as three different points on this curve. The continuum between irreversible loss of consciousness and irreversible cessation of

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<sup>7</sup> See e.g. Veatch (1993).

<sup>8</sup> For further discussion of Japanese law see Kato (2013).

pulmonary and cardiac function constitutes what Emanuel calls the zone of life cessation (Emanuel, 1995, p. 32). Emanuel points out that no position within the zone can lay claim to absolute correctness. Therefore, although starting from different conceptual considerations her conclusion is practically the same as the one proposed by Veatch, i.e., that within the provided limits we should tolerate personal differences on this issue.

Do we have evidence that such personal differences are widespread? It is important to study public attitudes to learn about this. In general, there seems to be much public misunderstanding of the medical facts as well as legal realities. As indicated in a recent literature review, “the existing data on public attitudes regarding brain death and organ transplantation reflect substantial public confusion” (Shah et al., 2015, p. 291). However, there seems to be quite consistent public support for DDR (see DuBois and Anderson 2006 for a review), even though some studies have registered divergences from the rule (Nair-Collins et al., 2014). Another important tendency registered in the literature is that it seems that in research conducted in Japan and China (see Yang & Miller 2015, p. 216 for a brief overview) a strongly pronounced preference for the cardiopulmonary understanding of death can be observed. However, to the best of our knowledge, there are no studies that allow study participants to choose their preference from a wide set of answers that refer to different stages in the process of dying. In order to provide some preliminary data on these issues we’ve conducted a study.

### Study

**Participants.** 160 Lithuanian participants completed an online survey (63% females, 33% males, 3% chose ‘other / prefer not to answer’, 1% did not indicate their answer; mean age: 30.7; age SD = 8.26; age range 18–60, 3% did not indicate their answer).

**Materials and procedure.** After providing consent, participants read the following possible description of the process of dying, divided into stages:

(1) The patient had a fever and headaches for 3 days. The patient cannot tolerate bright light or noises. The patient is nauseated, and when he moves too fast he has vertigo. The doctor stuck a needle into the patient’s back to get some of the fluid in his brain and the results came back indicating inflammation. The doctor diagnosed meningitis.

(2) The patient has been in hospital for 3 days. First, in the Neurology unit, but after a day he was transferred to the Intensive care unit. Patient’s memories of the recent past are fragmented, he has intense hallucinations. Medication is used to calm him down. In the ICU he is asleep most of the time. When he opens his eyes he cannot recognize the relatives. Sometimes when awake he mumbles random words or screams.

(3) The patient’s state deteriorated rapidly. His brain herniated. Due to that the cerebral cortex of the brain stopped functioning. The patient is still breathing on his own and his heart is beating, but he cannot feel anything or make himself move. Consciousness has been irrevocably lost. The patient does not react to any attempts to talk to him. However, the patient responds to some stimuli: when the neurologist poured some ice-cold water into the patient’s ears and looked for his eyes to move, they did move. The patient has been in this state for two weeks.

(4) The patient’s brain stopped functioning. The patient is intubated and breathing is done by mechanical lung ventilator. If removed from it, the patient would not be able to breath. The heart is beating, but medication is needed to sustain it. The patient does not move and does not feel anything. The patient no longer reacts to painful stimuli but some

very basic reflexes remain: when the neurologist hits the knee with a little rubber hammer, the leg moves. The patient has been in this state for two weeks.

(5) The patient's heart stopped and the patient was disconnected from the ventilator. The patient is not breathing; the body temperature starts to drop below 36<sup>0</sup>C. The skin is becoming cold and grey. The patient is not responsive to any stimuli whatsoever.

(6) After a day, the body is cold and stiff. The temperature is the same as room temperature. The blood in blood vessels has pooled in the lower parts of the body due to gravity. The abdomen is distended because guts are starting to decay due to bacteria there.

Stage 3 was designed to reflect the higher brain criterion of death, Stage 4 – whole-brain death, Stage 5 – cardiopulmonary criterion. This 6-stage description was always available for participants at the bottom of each page with questions.

On the next page some additional background information was provided in order to make the study task more intelligible to the participants:

In different countries of the world, different criteria for the determination of death are used. For example, in some countries, death is declared after full brain death, while in others – when the heart no longer beats. In some countries, people have the right to choose what criterion will be applied to them or to their relatives.

The next two pages contained questions on preferences for determining death. One concerning the self and the other concerning a close relative. The order of presentation of these two questions was randomized and participants were not allowed to come back to the previous page to change their responses.

Question about the self read as follows:

Try to think about your own preferences concerning your death. Suppose that you also can end up in a situation that resembles the one described. (If you want to refresh your memory, description of the process of dying is repeated at the bottom of this page.) Please indicate the stage of the process of dying at which you would prefer your own death to be stated and all medical procedures stopped.

While the question about relatives read:

Try to think about your preferences concerning the death of your closest relatives. Suppose that a close relative of yours can end up in a situation that resembles the one described. (If you want to refresh your memory, description of the process of dying is repeated at the bottom of this page.) Please indicate the stage of the process of dying at which you would prefer the death of your relative to be stated and all medical procedures stopped.

For both questions, participants had to choose the stage as numbered in the description of the process of dying.

After answering questions about death determination, some additional background was provided on the next page concerning organ procurement for donation.

The time at which death is determined is also very important in the context of organ donation, since organs are suitable for transplantation only when they are not damaged. Most frequently, organs are procured for donation after the complete death of the brain (Stage 4 in the description of the process of dying), but sometimes a medical professional wait till the heart stops beating (Stage 5), but in such a case it is necessary to procure the organs no later than five minutes after the heart stops beating.

The next two pages contained questions on preferences for organ procurement. One concerning the self and the other concerning a close relative. The order of presentation of these two questions was randomized and participants were not allowed to come back to the previous page to change their responses.

The question about the self read:

Try to think about your own preferences concerning organ donation. Suppose that you also can end up in a situation that resembles the one described. (If you want to refresh your memory, description of the process of dying is repeated at the bottom of this page.) Please indicate the stage of the process of dying at which you would prefer your organs to be procured for transplantation.

While the question about the relative read:

Suppose that a close relative of yours can end up in a situation that resembles the one described. (If you want to refresh your memory, description of the process of dying is repeated at the bottom of this page.) Please also suppose that your close relative expressed a wish to become an organ donor after they die. Please indicate the stage of the process of dying at which you would prefer the organs of your close relative to be procured for transplantation.

For both questions, participants had to choose a stage as numbered in the description of the process of dying. They were also allowed to choose an additional option; “I would not agree to organ donation in such case”. Participants then provided information on their gender and age and were thanked for participation.

**Results.** Since our measures asked to indicate the stages in the process of dying presented in a temporal order, we treat our data as answers on ordinal scale, and thus run non-parametric tests.

**Death determination, the main analysis.** The Mann-Whitney U test was performed in order to test for order effects. No differences in ranks were observed in either responses to the first person scenario ( $U = 3148.0, p = .855, r = .01$ ) or the scenario about the relative ( $U = 2964.5, p = .388, r = .07$ ). Thus, all participants were pooled for related samples analysis.

Preferences are displayed in Table 1:

Stages	First-person		Relative	
	<i>n</i>	%	<i>n</i>	%
1	0	0 %	0	0 %
2	4	2.5 %	0	0 %
3	48	30.0%	22	13.8%
4	72	45.0%	76	47.5%
5	30	18.8%	53	33.1%
6	6	3.8 %	9	5.6 %

Table 1. Preferences of participants concerning stages of the dying process in which their death and the death of their relatives should be stated (N=160). *n* indicates the number of participants choosing a given stage and % indicates the percent of participants choosing a given stage. Percentages may not add up to 100 due to rounding,

In both cases, the top 3 most frequently chosen stages were 3, 4, and 5, with 4 being the most frequent (45% in first-person question and 47.5 % in relative question).

Looking in more detail, out of 160 participants, 55 (34%) chose the later stage for determining a relative's death than their own death while only 3 (2%) chose the earlier stage for themselves. The remaining 102 (64%) preferred the same stage for both cases. A Wilcoxon Signed-ranks test indicated that participants were more often willing to choose a later stage for relatives than for themselves,  $Z = 6.29$ ,  $p < .001$ ,  $PS_{dep} = .34$ . Here and later in the paper we use the probability of superiority estimation for dependent groups ( $PS_{dep}$ ) as a measure of effect size for Wilcoxon Signed-ranks tests (as recommended by Grissom & Kim, 2014, pp. 114–115).  $PS_{dep} = .34$  means that there is a 34% probability that within a randomly sampled pair of responses, the score for the relative will be higher than the score for self.

**Additional analyses.** For subsequent analyses that involve decisions concerning transplantation, 6 participants were removed since they chose “I would not agree to organ donation in such a case” as an answer to at least one transplantation question (2 were opposed in first-person case; 2 – in the relative's case; 2 – in both). The reason for their exclusion is that leaving them in would not allow answers to be treated as choices on an ordinal scale anymore.

Remaining participants (N=154) exhibit the following pattern (Table 2):

Stages	Death determination				Organ removal for transplantation			
	First-person		Relative		First-person		Relative	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
1	0	0 %	0	0 %	0	0 %	0	0 %
2	4	2.6 %	0	0 %	3	1.9 %	0	0 %
3	47	30.5%	22	14.3 %	37	24.0%	20	13.0%
4	70	45.5%	73	47.4 %	93	60.4%	99	64.3%
5	27	17.5%	51	33.1 %	20	13.0%	34	22.1%
6	6	3.9 %	8	5.2 %	1	0.6 %	1	0.6 %

Table 2. Preferences of participants concerning stages of the dying process in which their death and the death of their relatives should be stated and in which theirs and their relatives' organs can be taken for transplantation (N=154). *n* indicates the number of participants choosing a given stage and % indicates the percent of participants choosing a given stage. Percentages may not add up to 100 due to rounding,

In all four cases, the top 3 most frequently chosen stages were 3, 4, and 5, with 4 (full-brain death) being the most frequent (45.5% in first-person question, 47.4 % in the relative's question, 60.4 % in transplantation first-person case and 64.3% in transplantation relative case).

**Death determination.** Out of 154 participants, 53 (34%) chose the later stage for determining the relative's death than their own death while only 2 (1%) chose the later stage for themselves than for their relatives. The remaining 99 (64%) preferred the same stage for both cases. A Wilcoxon Signed-ranks test indicated that participants were more often willing to choose a later stage for relatives than for themselves,  $Z = 6.31$ ,  $p < .001$ ,  $PS_{dep} = .34$ . Results are nearly identical to those achieved in the full sample before 6 participants were removed.

**Transplantation.** Out of 154 participants, 37 (24%) chose a later stage for harvesting a relative's organs than their own while only 2 (1%) chose a later stage for themselves. The remaining 115 (75%) preferred the same stage for both cases. A Wilcoxon Signed-ranks test indicated that participants were more often willing to choose a later stage for relatives than for themselves,  $Z = 5.51$ ,  $p < .001$ ,  $PS_{dep} = .24$ .

*First-person case.* Out of 154 participants, 19 (12%) chose a later stage for harvesting their organs than for determining their death while 21 (14%) chose an earlier stage for harvesting their organs than for determining their death. The remaining 114 (74%) preferred the same stage for both cases. A Wilcoxon Signed-ranks test indicated that there was no difference in first-person cases between stages preferred for death determination and for organ procurement,  $Z = .73$ ,  $p = .464$ ,  $PS_{dep} = .14$ .

*Relative case.* Out of 154 participants, 12 (8%) chose a later stage for harvesting the organs of the relative than for determining the death of the relative. 33 (21%) chose an earlier stage for organ procurement than for determining their death. The remaining 109 (71%) preferred the same stage for both cases. A Wilcoxon Signed-ranks test indicated that there was a difference: in the relative's case, death determination tended to be later than organ procurement,  $Z = 3.46$ ,  $p < .001$ ,  $PS_{dep} = .21$ .

**Discussion.** In the study, participants tended to choose an earlier stage in the process of dying for determining their own death than for determining the death of their relative. This has potential implications for situations in which relatives are entrusted with making a decision concerning which criterion is to be applied: relatives may be inclined to choose a later stage for determining their death than the patient herself would be inclined, would she be able to make such a decision. This can be mitigated by encouraging people to write advance directives and putting more weight on them.

The same pattern was observed concerning the time at which organs are procured for transplantation. Participants tended to choose an earlier stage for themselves than for their relatives. This can also raise a similar concern in which relatives push for a later stage for organ procurement from their dying/dead relative.

Concerning the dead donor rule, the results are largely consistent with the rule: the vast majority prefers organs to be taken at the same stage at which death is declared or at a later stage. However, there was also a minority who exhibited a different pattern for themselves (14% of participants chose earlier stage for procurement of organs than for determining death) and also for the relatives (21%).

Looking at preferences for determining death, all three candidate criteria seem to have some support in our sample. The vast majority chose one of the three options that were designed to mimic death determination criteria familiar from the literature. This was true both for preferences concerning determination of their own death and the death of their relatives. Stage 4 (whole-brain death) was the most popular option for self (45%) and for relatives (47,5%), but Stage 3 (higher-brain death; 30% for self and 13,8% for relatives) and Stage 4 (cardiopulmonary death; 18,8% for self and 33,1% for relatives) were also popular.

The latter result supports the idea of widening the set of criteria available for choice: higher-brain death should also be in the choice-set, as argued for by Veatch but not Bagheri.

The limitations of the present study include that only one potential description of the dying process was used. Also, a relatively small sample of online participants does not allow generalization to the whole Lithuanian population. However, it provides some evidence that there is a plurality of preferences. Moreover, the results are consistent with a much larger study we conducted with Latvian participants (Neiders & Dranseika, unpublished manuscript).

## Conclusions

Peter Singer in his paper argues that in order to have an efficient transplantation policy we should either redefine death as irreversible loss of consciousness or return to the old conception



of death as irreversible loss of cardiopulmonary function in combination with scrapping the dead donor rule. In our commentary we have argued that this conclusion is neither practicable nor necessary. We think that there is a better option available – the pluralistic approach defended in literature by Veatch and other authors. According to his view, we must admit that reasonable people have different views on how death should be determined and therefore there must be a possibility for them to make their own decision about the matter as long as nobody else is harmed. This solution might resolve many conflicts and enforce the value of autonomy.

Our empirical data give preliminary evidence that there is a wide variety of opinions concerning death determination criteria. This provides some support for the claim the policy recommended by Veatch will be able to accommodate the plurality of preferences that exists in the society. This may help the policy to achieve acceptance. Besides, our data show that the three conceptions of death that are widely discussed in bioethics literature and suggested by Veatch as candidates for people to choose from are not entirely arbitrary. In addition, since whole brain criterion was the most frequently chosen answer, this would provide some prima facie evidence that – if a default option is needed – this criterion can be used as the default. Also our data provides some support for the Dead Donor Rule. Finally, our study provides some evidence that people have a tendency to make a different judgment about the death of their close relatives than they apply to themselves. This suggests that in such cases the use of advance directives should be encouraged.

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