

**This item is the archived peer-reviewed author-version of:**

Euthanasia through living organ donation : ethical, legal, and medical challenges

**Reference:**

Bollen Jan A. M., Shaw David, de Wert Guido, ten Hoopen Rankie, Ysebaert Dirk, van Heurn Ernst, van Mook Walther N. K. A..- Euthanasia through living organ donation : ethical, legal, and medical challenges  
Journal of heart and lung transplantation - ISSN 1053-2498 - New york, Elsevier science inc, 38:2(2019), p. 111-113  
Full text (Publisher's DOI): <https://doi.org/10.1016/J.HEALUN.2018.07.014>  
To cite this reference: <https://hdl.handle.net/10067/1575430151162165141>

EUTHANASIA THROUGH LIVING ORGAN DONATION: ETHICAL, LEGAL AND MEDICAL CHALLENGES

J.A.M. Bollen LLM, MD , David Shaw , Guido de Wert Professor , Rankie ten Hoopen Assistant professor , Dirk Ysebaert Professor , Ernst van Heurn Professor , Walther N.K.A. van Mook Professor

PII: S1053-2498(18)31566-3  
DOI: [10.1016/j.healun.2018.07.014](https://doi.org/10.1016/j.healun.2018.07.014)  
Reference: HEALUN 6790



To appear in: *Journal of Heart and Lung Transplantation*

Received date: 19 February 2018  
Revised date: 26 June 2018  
Accepted date: 19 July 2018

Please cite this article as: J.A.M. Bollen LLM, MD , David Shaw , Guido de Wert Professor , Rankie ten Hoopen Assistant professor , Dirk Ysebaert Professor , Ernst van Heurn Professor , Walther N.K.A. van Mook Professor , EUTHANASIA THROUGH LIVING ORGAN DONATION: ETHICAL, LEGAL AND MEDICAL CHALLENGES, *Journal of Heart and Lung Transplantation* (2018), doi: [10.1016/j.healun.2018.07.014](https://doi.org/10.1016/j.healun.2018.07.014)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

# EUTHANASIA THROUGH LIVING ORGAN DONATION: ETHICAL, LEGAL AND MEDICAL CHALLENGES

---

## Authors:

- J.A.M. Bollen, LL.M, MD (corresponding author)  
Department of intensive care  
Maastricht University Medical Center, Postal Box 5800, 6202 AZ Maastricht, the Netherlands  
E-mail: [jan@janbollen.be](mailto:jan@janbollen.be)  
Phone: 0031641604217
- David Shaw  
Department of Health, Ethics and Society, CAPHRI Research Institute, Maastricht University  
Postal Box 616, 6200 MD Maastricht, The Netherlands
- Guido de Wert, Professor  
Department of Health, Ethics and Society, CAPHRI Research Institute, Maastricht University  
Postal Box 616, 6200 MD Maastricht, The Netherlands
- Rankie ten Hoopen, Assistant professor  
Faculty of Law  
Postal Box 616, 6200 MD Maastricht, The Netherlands
- Dirk Ysebaert, Professor  
Department of transplant surgery  
Antwerp University Hospital, Wilrijkstraat 10, 2650 Edegem, Belgium
- Ernst van Heurn, Professor  
Department of pediatric surgery  
Academic Medical Center, Postal Box 22660, 1100DD Amsterdam, The Netherlands
- Walther N.K.A. van Mook, Professor  
Department of intensive care  
Maastricht University Medical Center, Postal Box 5800, 6202 AZ Maastricht, the Netherlands

**Authors' contributions:** Jan Bollen, Ernst van Heurn, and Walther van Mook conceptualized the study design and contents of this article, and actively participated in its construction including data/evidence gathering and writing of all versions of the manuscript.

David Shaw and Guido de Wert actively participated in the writing and revising of the draft especially focusing on the ethical aspects.

Rankie ten Hoopen actively participated in the writing and revising of the draft especially focusing on the legal aspects.

Dirk Ysebaert provided empirical evidence and personal experience with the topic from a Belgian perspective, and commented on the final versions of the paper.

**Conflict of interest statements:** The authors have no conflict of interest.

**Funding:** No funding applicable

**Ethics committee approval:** Not applicable

**Word count:** 1386

**Keywords:** Belgium, Netherlands, Euthanasia, Organ donation, Donation after cardiac death, Donation after brain death, , End-of-life, Transplantation, protocol

ACCEPTED MANUSCRIPT

**Abstract:**

*Euthanasia is categorically prohibited in almost all countries throughout the world. In Belgium and the Netherlands, combining euthanasia and subsequent organ donation in a so called 'donation after circulatory death' (DCD) - procedure is feasible on legal and medical grounds, and is increasingly gaining social and ethical acceptance. DCD heart donation however is currently not performed in Belgium and the Netherlands following euthanasia due to concerns surrounding the prolonged warm ischemia time associated with DCD and its effect upon subsequent heart function. A number of patients who undergo euthanasia explicitly express their wish to donate their organs in a 'living organ donation' procedure, causing them to die.*

*Assuming that euthanasia is permitted, as expressed in Dutch and Belgian legislation, this exploratory article investigates whether it could be legally and ethically sound to donate organs, especially the heart, as a living donor and perform euthanasia in the same procedure in a patient who fulfills the due diligence requirements for euthanasia. Organ donation euthanasia (ODE) would then cause death by the associated surgical procedure, and in addition would improve the quality of the other donated organs, a procedure that would fully respect the patient's autonomy.*

---

**Introduction**

A limited number of patients who undergo euthanasia wish to donate their organs. In this donation after circulatory death (DCD) procedure, it is currently possible to donate lungs, liver, kidneys and pancreas but not the heart due to concerns surrounding the prolonged warm ischemia time.<sup>1</sup> Recent studies from the United Kingdom suggest that heart transplantation from DCD heart donation provides comparable short-term outcomes to traditional donation after brain death (DBD) heart transplants and can serve to increase heart transplant activity in well-selected patients. DCD heart

donation is yet to be performed following euthanasia although research projects to explore DCD heart donation *in general* are currently being developed in Belgium and the Netherlands.<sup>2-5</sup>

In the experience of the authors, requests to be anesthetized and subsequently remove organs - including the heart - in a 'living organ donation' procedure, are voiced by an increasing number of patients. This type of procedure has been previously mentioned by Savulescu as 'organ donation euthanasia' (ODE), and would maximally respect the patient's autonomy, but may give others the impression that patients are killed *for* their organs.<sup>6,7</sup>

In 2017, 6585 patients underwent euthanasia in the Netherlands, while in 2015, 2022 patients did so in Belgium.<sup>8,9</sup> Although the majority of patients undergoing euthanasia suffer from malignancy, are too old or have other co-morbidities that preclude them from organ donation, previous research states that up to 10% of all patients who undergo euthanasia may be suitable organ donors.<sup>10</sup>

Typically these patients would be suffering from a neurodegenerative disease like multiple sclerosis or amyotrophic lateral sclerosis.

Not all of these medically suitable patients however wish to donate, nor do they want to undergo the preparatory investigations involved (including blood tests and medical imaging) or be admitted to the hospital for subsequent organ donation as euthanasia procedures are commonly performed at home or in a hospice. In Belgium, the euthanasia procedure is occasionally performed in the operating room.<sup>11</sup>

Current guidelines state that only the patient should pose the question of organ donation, and only *after* a positive response to the euthanasia question, thus keeping both procedures strictly separated.<sup>12</sup> The authors however think a physician should always inform a patient who is medically suitable about the possibility of organ donation, even though this could disturb the trust relationship, as many patients may choose not to ask about donation because they assume it is not possible in this context. Consent of the patient's relatives for organ donation after euthanasia is not required.

Since 2005, at least 70 patients have donated their organs after euthanasia in Belgium and the Netherlands combined.<sup>13</sup> This article explores whether it would be legally, medically and ethically possible to perform ODE. These aspects are addressed for Belgium and the Netherlands, since these countries introduced organ donation after euthanasia years ago, while Canada only initiated this possibility recently.<sup>14</sup>

### Legal considerations regarding euthanasia

According to the Belgian and Dutch Laws on Euthanasia, a physician will not be punished if he performs euthanasia on a mentally competent person when euthanasia is requested voluntarily, well considered and repeatedly, and when this patient is in a medically hopeless condition of constant and unbearable physical or psychological suffering. When there is doubt about the patient's mental competence, or when it concerns psychiatric suffering, the patient is reviewed by a psychiatrist. Both laws do not mention *how* euthanasia should be performed, but a Dutch practical guideline of the Royal Dutch Medical Association explains this as using a coma inducer and muscle relaxant.<sup>15-17</sup>

### Legal considerations regarding organ donation

Since the proposed procedure does not involve patients who are brain dead, 'living donation' is the right term to use, even though this is normally used for people who donate their kidney, and do not die as a result of donation.

The Dutch and Belgian laws on organ donation state that living donation is only possible in mentally competent people who are at least 18 years of age.<sup>18,19</sup> Written consent of the patient is required.

When living donation could have serious consequences for the donor, or when it concerns organs that do not regenerate, this can only be carried out when the recipient is in a life-threatening

situation. This however can be broadly interpreted.

In the Netherlands, the law pertaining to living donation specifically focuses on donating *one* organ.

In neither country does the relevant legislation provide a possibility to perform living donation which deliberately results in the death of the donor.

## Ethical analysis

Even in countries such as the Netherlands and Belgium, where organ donation *after* euthanasia is already legally possible and practiced, ODE faces several ethical objections. These will be outlined below.

*First*, ODE goes against the dead donor rule, which states that vital organs should be taken only from persons who are dead.<sup>20,21</sup> This rule is a safeguard against abusive exploitation.

One could argue that the dead donor rule becomes futile when a patient meets all criteria for euthanasia and consents to ODE, and thus makes use of his right of self-determination. The current procedure may be against the 'letter' of the dead donor rule, but not necessarily against its 'spirit'. In addition, it is questionable whether causing death in this context is a 'serious consequence' – as mentioned in the laws on living donation, given that euthanasia is requested. In fact, death is a desired consequence in this context.

When a patient requests euthanasia, but is still so altruistic that he or she wants to donate organs, one could ask why it is necessary to prevent him from donating his heart? The physician can sedate the patient, after which relatives and family still have a moment to say goodbye. Enabling this possibility can make a patient's end of life more tolerable.

*Second*, living donation and euthanasia can *both* be seen as harming patients. Physicians have sworn to 'do no harm'. But this argument also applies to 'normal' organ donation after euthanasia. Living



donation in combination with euthanasia does not harm the patient more than organ donation after euthanasia does, or euthanasia without organ donation for that matter.

Making ODE possible, compared to neglecting the patient's wish and not facilitating this procedure, respects the Hippocratic Oath which mandates taking care of the organ donor and the recipient in the best possible way.

The *third* ethical objection to living donation and euthanasia is that people are instrumentalized in order to obtain organs; people could be pressured to undergo euthanasia in order to donate, while the public might think euthanasia was only granted to make organ donation possible. The topic of organ donation is therefore only to be discussed *after* a positive decision on euthanasia has been made.

The *last*, but not least important argument against organ donation euthanasia is that, even if all the preceding ethical objections were overcome, negative publicity and public fears about this type of organ donation could cause other people to refuse becoming an organ donor – which could reduce donation rates in the short term. The effects of negative media coverage could be dramatic, which could be prohibitive from a utilitarian point of view.<sup>22</sup>

Nevertheless, the fact remains that if all patients who ever underwent organ donation after euthanasia had donated their heart, more than 70 patients would be removed from the heart transplant waiting list. In 2017, 33 patients on that list in Belgium and the Netherlands died without receiving the organ they needed.<sup>23</sup> It is impossible to know how many additional donor organs we realistically expect to achieve by allowing this procedure, but we know there are people who *would* choose this opportunity, and who would save a patient's life who is currently on the heart transplant wait list.

## Conclusion

The right of self-determination of a patient who meets the due diligence requirements for euthanasia should ideally give this patient the possibility of also donating his heart, so that others can be helped and/or saved by as many donated organs as possible. Implementing organ donation euthanasia (ODE) into practice should however be cautiously approached, since public perception may not be ready for this combination of procedures yet.

Given the explorative character of this manuscript, the conclusions are provisional. The ethical objections might not be convincing, while the consequentialist and utilitarian arguments need further debate and analysis. Exploratory research evaluating public perspectives on this issue must thus be conducted, but maintaining public trust in organ donation is paramount.

## Reference list

1. Bollen J, de Jongh W, Hagens J, et al. Organ Donation After Euthanasia: A Dutch Practical Manual. *American journal of transplantation : official journal of the American Society of Transplantation and the American Society of Transplant Surgeons*. 2016;16(7):1967-1972.
2. Messer SJ, Axell RG, Colah S, et al. Functional assessment and transplantation of the donor heart after circulatory death. *The Journal of heart and lung transplantation : the official publication of the International Society for Heart Transplantation*. 2016;35(12):1443-1452.
3. Large S, Tsui S, Messer S. Clinical and ethical challenges in heart transplantation from donation after circulatory determined death donors. *Current opinion in organ transplantation*. 2017;22(3):251-259.
4. Messer S, Page A, Axell R, et al. Outcome after heart transplantation from donation after circulatory-determined death donors. *The Journal of heart and lung transplantation : the official publication of the International Society for Heart Transplantation*. 2017;36(12):1311-1318.
5. Noterdaeme T, Detry O, Hans MF, et al. What is the potential increase in the heart graft pool by cardiac donation after circulatory death? *Transplant international : official journal of the European Society for Organ Transplantation*. 2013;26(1):61-66.
6. Wilkinson D, Savulescu J. Should we allow organ donation euthanasia? Alternatives for maximizing the number and quality of organs for transplantation. *Bioethics*. 2012;26(1):32-48.
7. Lazaridis C, Blumenthal-Barby JS. Organ Donation Beyond Brain Death: Donors as Ends and Maximal Utility. *The American journal of bioethics : AJOB*. 2015;15(8):17-19.

8. Federal monitoring and evaluation committee on euthanasia, Seventh report to the legislative chambers, 2014-2015, August 09, 2016 - Accessible: [https://overlegorganen.gezondheid.belgie.be/sites/default/files/documents/7\\_euthanasie-verslag\\_2014-2015-nl\\_0.pdf](https://overlegorganen.gezondheid.belgie.be/sites/default/files/documents/7_euthanasie-verslag_2014-2015-nl_0.pdf).
9. Regionale toetsingscommissies euthanasie [Regional Review Committees on Euthanasia], Annual Report 2017 - Accessible: <https://www.euthanasiecommissie.nl/binaries/euthanasiecommissie/documenten/jaarverslagen/2017/mei/17/jaarverslag-2017/RTEjv2017.pdf>.
10. Bollen J, van Smaalen T, Ten Hoopen R, van Heurn E, Ysebaert D, van Mook W. Potential Number of Organ Donors After Euthanasia in Belgium. *Jama*. 2017;317(14):1476-1477.
11. Ysebaert D, Van Beeumen G, De Greef K, et al. Organ procurement after euthanasia: Belgian experience. *Transplantation proceedings*. 2009;41(2):585-586.
12. Dutch Guideline 'Organ donation after euthanasia' [Richtlijn Orgaandonatie na euthanasie], november 2017, version 1.2, Dutch Transplant Society - Accessible: <https://www.transplantatiestichting.nl/bestel-en-download/richtlijn-orgaandonatie-na-euthanasie>.
13. Personal communication.
14. Allard J, Fortin MC. Organ donation after medical assistance in dying or cessation of life-sustaining treatment requested by conscious patients: the Canadian context. *J Med Ethics*. 2016.
15. Bollen J, Ten Hoopen R, Ysebaert D, van Mook W, van Heurn E. Legal and ethical aspects of organ donation after euthanasia in Belgium and the Netherlands. *J Med Ethics*. 2016;42(8):486-489.
16. Euthanasia Act (Belgium), May 28, 2002 [Wet betreffende de euthanasie].
17. Euthanasia Act (Netherlands), April 12, 2001, [Wet houdende toetsing van levensbeëindiging op verzoek en hulp bij zelfdoding].
18. Organ Donation Act (Belgium), Article 5, June 13, 1986 [Wet betreffende het wegnemen en transplanteren van organen]. In.
19. Organ Donation Act (Netherlands) [Wet op de orgaandonatie], Article 3. In.
20. Truog RD, Miller FG, Halpern SD. The dead-donor rule and the future of organ donation. *The New England journal of medicine*. 2013;369(14):1287-1289.
21. Bernat JL. Life or death for the dead-donor rule? *The New England journal of medicine*. 2013;369(14):1289-1291.
22. Volk ML, Lok AS, Ubel PA, Vijan S. Beyond utilitarianism: a method for analyzing competing ethical principles in a decision analysis of liver transplantation. *Medical decision making : an international journal of the Society for Medical Decision Making*. 2008;28(5):763-772.
23. Numbers found through the data on the Eurotransplant website - <http://statistics.eurotransplant.org/>.