

2013

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Recommended Citation

Orentlicher, David (2013) "Deactivating Implanted Cardiac Devices: Euthanasia or the Withdrawal of Treatment," *William Mitchell Law Review*: Vol. 39: Iss. 4, Article 8.

Available at: <http://open.mitchellhamline.edu/wmlr/vol39/iss4/8>

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DEACTIVATING IMPLANTED CARDIAC DEVICES: EUTHANASIA OR THE WITHDRAWAL OF TREATMENT?

David Orentlicher[†]

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I. INTRODUCTION

Lars Noah provides an important analysis of a thorny question—does the deactivation of a pacemaker or other implanted cardiac device¹ constitute permissible withdrawal of life-sustaining treatment or impermissible euthanasia? As Noah observes, other scholars have addressed the legal questions at stake, but not in the sustained way that he does. His article provides an impressive consideration of the issue and will provide valuable guidance to policymakers and scholars.

Why is the issue so difficult? On one hand, cardiac devices are forms of “artificial” medical treatment like ventilators, dialysis, or feeding tubes, and the law has clearly established the right to have any of those other treatments discontinued. On the other hand, implanted cardiac devices can become integrated into the patient’s

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1. Noah discusses pacemakers, cardioverter-defibrillators, and left ventricular assist devices. A pacemaker maintains a normal heartbeat for the patient; a cardioverter-defibrillator can electrically jolt the patient’s heart back to a normal heartbeat from a life-threatening, abnormal heartbeat and can also act as a pacemaker; and a left ventricular assist device is a mechanical pump that helps the heart pump blood through the body’s circulatory system. Lars Noah, *Turn the Beat Around?: Deactivating Implanted Cardiac-Assist Devices*, 39 WM. MITCHELL L. REV 1229, 1232–35 (2013).

body in a way that makes them seem like nearly perfect substitutes for the person's failed cells. In this view, deactivating a pacemaker is not so much like removing a ventilator or discontinuing dialysis as it is like disabling a transplanted heart, which would constitute an act of euthanasia.²

As Noah asks us, how do we decide which is the better analogy for an implanted cardiac device, a ventilator or a transplanted heart?

II. THE PATIENT'S MEDICAL CONDITION

According to Mohamed Rady and Joseph Verheijde, the answer turns on the patient's medical condition.³ If the patient is dying from a massive stroke or other life-threatening illness, then deactivation is permissible. The life-threatening illness is the real cause of the patient's death. On the other hand, if the patient is not facing death from another cause, then deactivation would be tantamount to euthanasia.⁴ In such a case, the deactivation would be the real cause of the patient's death.

But as Noah points out, resting the analysis on the presence, or not, of a life-threatening illness raises problems for the withdrawal of other treatments. Patients can refuse a ventilator even if they are not suffering from a terminal illness.⁵

Although Rady and Verheijde draw their line at the wrong place, their analysis reflects an important moral intuition. People really do care about a patient's medical condition when judging the propriety of an action that will shorten a patient's life. Withdrawing a ventilator from a patient dying of cancer seems very different from withholding a blood transfusion from a young mother who suffered substantial bleeding during childbirth. Similarly, deactivating pacemakers in people who are otherwise healthy seems very different from deactivating implanted defibrillators⁶ in patients who are in the final stages of a terminal illness and do not want to be resuscitated in the event that their

2. *Id.* at 1229–1230, 1250–52.

3. Mohamed Y. Rady & Joseph L. Verheijde, Letter, *When Is Deactivating an Implanted Cardiac Device Physician-Assisted Death? Appraisal of the Lethal Pathophysiology and Mode of Death*, 14 J. PALLIATIVE MED. 1086, 1086–87 (2011).

4. *Id.*

5. See Noah, *supra* note 1, at 1253.

6. An implanted cardioverter-defibrillator can electrically jolt the patient's heart back to a normal heartbeat from a life-threatening, abnormal heartbeat in addition to acting as a pacemaker. *Id.* at 1233–34.

hearts stop beating.

Indeed, at one time, end-of-life law did condition a patient's right to refuse treatment on the patient's prognosis. Consider, for example, the landmark decision by the New Jersey Supreme Court in the case of Karen Ann Quinlan.⁷ Under the superseded *Quinlan* standard, individuals could exercise a right to refuse treatment once their prognosis became sufficiently dim, but not when their prognosis was reasonably good.⁸

If we followed the *Quinlan* approach, we would conclude that some device deactivations would be permissible, while others would be impermissible. As Rady and Verheijde suggest, we would consider the patient's medical condition in assessing the permissibility of a deactivation.⁹

But *Quinlan* no longer provides the governing legal standard. Over time, the law has evolved to the principle that people may refuse care regardless of their medical conditions. One does not have to be seriously and irreversibly ill to refuse life-sustaining treatment. All patients have a fundamental right to accept or decline any medical treatment that is offered to them.¹⁰ It may seem troublesome if an otherwise healthy person requests the deactivation of a pacemaker, but that is no more troublesome than someone rejecting a transfusion of blood that could restore the person to excellent health.

To be sure, we should be worried when the right to refuse unwanted treatment results in rejections of simple treatments that can restore health, and physicians should make sure that such refusals are well grounded in religious beliefs or other persuasive justifications. In the end, though, legal rules leave the treatment decision to the patient.

There are important reasons why the law does not draw distinctions among different refusals of life-sustaining treatment based on the patient's medical condition even though the patient's prognosis is an important consideration for people. In particular,

7. *In re Quinlan*, 355 A.2d 647 (N.J. 1976).

8. *Id.* at 664.

9. Rady & Verheijde, *supra* note 3, at 1086. Other scholars have proposed different standards. For example, Lynn Jansen would consider the device's physical location (inside or outside the patient's body), its duration of use, and its functional role. Lynn A. Jansen, *Hastening Death and the Boundaries of the Self*, 20 *BIOETHICS* 105, 110 (2006); Noah, *supra* note 1, at 1244.

10. See DAVID ORENTLICHER, MARY ANNE BOBINSKI & MARK A. HALL, *BIOETHICS AND PUBLIC HEALTH LAW* 247–51 (2d ed. 2008).

it would be very problematic for the state to tell some patients that the quality of their lives is sufficiently dismal that they can choose death while telling other patients that the quality of their lives is sufficiently good that they must choose life. These are not the kinds of judgments that governments should be making for their citizens. Hence, the law allows all persons the right to refuse treatment.¹¹

And as I have argued previously, society is comfortable with a broad right to refuse treatment because the typical refusal of treatment is made by, or for, someone who is seriously and irreversibly ill. The classic court cases involve patients who suffer from permanent unconsciousness, advanced dementia, or other debilitating illnesses. For the most part, an unlimited right to refuse treatment has the practical effect of life-sustaining treatment being withdrawn from patients who have a poor prognosis.¹²

The same would be true for patients who want their cardiac devices to be deactivated. Although a relatively healthy person could ask to have a pacemaker turned off, it is far more likely that seriously ill patients would want to have their pacemakers deactivated.¹³

In sum, a rule permitting all patients—regardless of their medical conditions—to have their cardiac devices deactivated would be consistent with the usual rules allowing all patients to have life-sustaining treatment withdrawn.

While it may not be possible to distinguish among different kinds of device deactivations based on the patient's medical condition, there are alternative bases for identifying some device deactivations as euthanasia.

11. DAVID ORENTLICHER, *MATTERS OF LIFE AND DEATH: MAKING MORAL THEORY WORK IN MEDICAL ETHICS AND THE LAW* 65–68 (2001).

12. *Id.* at 67–68. And some trial courts will order treatment for patients with a good prognosis, even though their decisions will be overridden later by an appellate court. ORENTLICHER ET AL., *supra* note 10, at 251.

13. Of course, there are times when people with good prognoses will nevertheless refuse life-sustaining treatment, whether the treatments are ventilators or pacemakers. But most such refusals are based on sincerely held religious beliefs. In addition, as discussed, society does not want the government to decide when someone is sick enough to decline treatment.

III. REPLACING VERSUS SUPPLEMENTING AN ESSENTIAL FUNCTION

The distinction between the permissible removal of a ventilator and the impermissible removal of a transplanted heart is helpful in drawing lines between permissible and impermissible device deactivations. A ventilator supplements the patient's respiratory capacity but does not replace it. Ventilated patients can draw on both the ventilator and their lungs for oxygen. Thus, when ventilators are withdrawn, patients can fall back on their own respiratory capacity. If the remaining capacity is insufficient to sustain life, then we can attribute the patient's death to the patient's medical condition, rather than to the withdrawal of the ventilator. A transplanted heart, on the other hand, replaces the patient's cardiac capacity. Transplanted patients can draw only on the new heart for cardiac function. If a transplanted heart were removed, the patient would not be able to resort to his or her own cardiac capacity, for that would have been taken away by doctors at the time of the transplant.

Thus, we might conclude that deactivation of a cardiac device would constitute euthanasia when two things are true: the device supplies a cardiac function that is essential to maintaining the patient's life, and the surgery to implant the device included steps that permanently disabled the patient's own ability to provide the function. In such cases, the patient could not survive without the device, just as the heart transplant recipient could not survive without the new heart. For example, if a pacemaker were implanted to maintain a normal heartbeat, and the implantation disabled the functioning of the patient's heartbeating cells, then deactivation would look like euthanasia. Similarly, if a left ventricular assist device were implanted to pump blood from the patient's heart to the rest of the body, and the implantation disabled the patient's ventricular function, then deactivation of the device would look like euthanasia. But if the patient's heart retained its own capacity to function—at whatever level remained after the damage from the patient's illness—then deactivation of the device would look like a kind of treatment withdrawal.

Under a distinction between supplementing and replacing an essential bodily function, deactivation of cardiac devices generally would not constitute euthanasia. Pacemakers supplement the heart's own capacity to generate a heartbeat, cardioverter-defibrillators supplement the heart's ability to maintain a good rhythm, and left ventricular assist devices supplement the left

ventricle's ability to pump blood to the aorta.¹⁴ As Noah observes, all of these devices are “cardiac-assist devices.”¹⁵

Note how this distinction between supplementing and replacing an essential bodily function comports with a key justification for the distinction between treatment withdrawal and euthanasia. Physicians may try to relieve a patient's suffering by withdrawing various treatments, even if there is a high risk of death from the withdrawals. However, physicians cannot try to relieve a patient's suffering by fully disabling an essential body function. Thus, for example, if a physician withdrew a ventilator and also administered a drug that blocked the patient's own pulmonary function, then we would have euthanasia. Death can be anticipated and even likely, but it cannot be the inevitable result of the physician's actions.

Would it always constitute euthanasia to remove a device that replaced, rather than supplemented, an essential cardiac function? Would future recipients of a total artificial heart never be able to have their hearts deactivated? If we were to apply a strict definition of euthanasia, we would include deactivation of any device that replaced, rather than supplemented, an essential cardiac function.

But we might want to take a less restrictive approach. We might want to look more deeply into the reasons why we do not treat withdrawals of ventilators, dialysis, or other treatments as euthanasia. This takes us to another consideration.

IV. PERFECT VERSUS IMPERFECT REPLACEMENTS

From the distinction between withdrawing a ventilator and disabling a transplanted heart, we can identify a second potential basis for distinguishing between permissible withdrawal of treatment and impermissible euthanasia. Transplanted hearts not only replace the recipients' own hearts, they seemingly constitute a perfect replacement. A new heart is integrated into the recipient's body so that it functions in the same way as the recipient's original heart.

Why does this matter? A key reason for permitting patients to refuse unwanted treatment lies in the fact that all medical

14. James C. Fang, *Rise of the Machines—Left Ventricular Assist Devices as Permanent Therapy for Advanced Heart Failure*, 361 NEW ENG. J. MED. 2282, 2282–83 (2009).

15. Noah, *supra* note 1, at 1234 (emphasis added).

treatments come with risks as well as benefits. Cancer chemotherapy may eradicate tumor cells, but it also may kill normal cells. No treatment is purely beneficial. Because a treatment decision involves a weighing of benefits and detriments, and different people may weigh the benefits and detriments differently, we leave it up to the patient to make the decision. And we leave it up to the patient even when the benefits are seemingly great and the detriments seemingly minor. Patients may refuse antibiotics for a life-threatening pneumonia or a blood transfusion for a severe loss of blood, just as they may refuse chemotherapy for metastatic cancer.¹⁶

But if an implant were to serve as a *perfect* replacement for the person's original tissues or organ, there would not be any risks to offset benefits. There would not be any drawbacks to the implant that would make it less desirable than the original heart,¹⁷ and the patient's interest in having the implant deactivated would dissipate. Hence, we might conclude that device deactivation constitutes euthanasia only if the device replaces an essential cardiac function *and* the device is a perfect replacement for the function. Both conditions would have to be satisfied.¹⁸

16. At one time, the law did take into account the burdensomeness of a life-sustaining treatment in deciding whether a patient had the right to refuse the treatment. Earlier I mentioned the *Quinlan* court's emphasis on the prognosis of the patient—the more dismal the prognosis, the stronger the patient's interest in refusing unwanted medical treatment. *In re Quinlan*, 355 A.2d 647, 664 (N.J. 1976). The *Quinlan* court also rested the right to refuse treatment on the nature of the treatment—the more burdensome the treatment, the stronger the patient's interest in refusing it. *Id.* Just as the *Quinlan* standard has been superseded with respect to the patient's prognosis, it also has been superseded with respect to the burdensomeness of the treatment. Patients may weigh for themselves the extent to which a treatment's burden should be taken into account. ORENTLICHER ET AL., *supra* note 10, at 248–49.

17. To be sure, there would have been risks involved with the surgery to implant the cardiac device, but we are considering here the risks from leaving a device inside the patient.

18. This alternative approach is similar to one that has been proposed by Daniel Sulmasy and that Noah discusses. Daniel P. Sulmasy, *Within You/Without You: Biotechnology, Ontology, and Ethics*, 23 J. GEN. INTERNAL MED. (Supp. 1) 69, 71–72 (2008); Noah, *supra* note 1, at 1243–1248. There are some important differences between Sulmasy's approach and mine. First, he bases his approach on the principle that deactivation of implanted therapies constitutes euthanasia when an implant “participates in the organic unity of the patient” such that it “has become ‘a part of the patient,’” Sulmasy, *supra*, at 71, rather than when the implant poses no risks to the patient's health. In addition, Sulmasy does not require the implanted device to be a perfect replacement. The closer to perfection, the more likely that deactivation would constitute euthanasia, but a

Of course, even heart transplants come with some risks. Patients must take drugs to suppress their bodies' immune response to a transplant so the transplant will not be "rejected." And these drugs have side effects, including putting the patient at higher risk of cancer. Accordingly, even though a patient would not be free to have the transplanted heart removed, the patient would retain the right to stop taking immunosuppressive drugs.

V. CONCLUSION

It is not surprising that many scholars view the deactivation of a cardiac implant differently than withdrawal of a treatment that remains outside a person's body. Cardiac devices can become integrated into the recipient's body in a way that makes them seem more like an organ transplant than a ventilator or other artificial treatment.

But consideration of ethics and law leads us to the principle that what really matters is whether the device supplements or replaces the patient's own capacity and possibly whether the device is an imperfect or perfect replacement. At a minimum, device deactivation would constitute euthanasia only if the device replaced the patient's own capacity. It also might be necessary that the device be a perfect replacement for the patient's own capacity before its deactivation should be considered euthanasia.

device apparently could fall somewhat short of being a perfect replacement and still have its deactivation considered to be an act of euthanasia. *Id.* at 71–72. Finally, it is not clear whether Sulmasy takes account of the extent to which the device replaces rather than supplements the body's own capacity. That consideration may be implicit in his analysis, *id.* at 72, but it is not an explicit factor.