

## MATTERS ARISING

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### **Organ donation after cardiac death: legal and ethical justifications for antemortem interventions**

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## Organ donation after cardiac death: legal and ethical justifications for antemortem interventions

*A recent article has prompted debate about whether antemortem interventions in potential organ donors are legally and ethically justified (MJA 2007; 187: 168-170)*

Mohamed Y Rady, Joseph L Verheijde and Joan L McGregor

**TO THE EDITOR:** In the recent article by Richards and Rogers, the ethical and legal arguments made to justify antemortem interventions for organ donation after cardiac death (DCD) raise some questions.<sup>1</sup>

First, do antemortem interventions harm the patient? Anticoagulants (eg, heparin) expand intracranial haemorrhage and hasten the death of potential donors with acute ischaemic or haemorrhagic strokes. Large volumes of crystalloid fluids are infused to maintain organ perfusion, while exacerbating cerebral oedema and accelerating the onset of brain stem herniation and infarction in potential donors. Vasodilators are infused for organ preservation, causing hypotension and early onset of cardiorespiratory arrest after discontinuation of mechanical ventilation. While it may be debatable whether these interventions can cause harm to a person destined to die, they certainly shorten the dying process and hasten death.<sup>2</sup>

Many cultures and societies worldwide consider the performance of interventions to shorten the dying process ethically unacceptable.<sup>3</sup> In the United States, the intent to administer — for the sole purpose of organ viability — a medication that expedites death and shortens the warm ischaemia time in DCD is a criminally liable action.<sup>4</sup> Regardless of the lack of evidence that dying in an operating theatre is not worse than dying in an intensive care unit, if dying in the operating theatre results in the denial of death with dignity and peace, it can result in long-lasting traumatic experiences and memories for families and relatives.<sup>5</sup>

Second, is consenting to appendectomy the same as consenting to organ donation? The only similarity between appendectomy and removal of organs from a donor is that both are surgical procedures performed in the operating theatre. However, consent to the former is intended to “heal and preserve life” while the latter has no such intent and can imply to “shorten life”. To draw a conclusion that

consent to DCD could be viewed as consent to take all reasonable steps to ensure that the operation is successful and results in the procurement of viable organs for transplantation is only justifiable if society has decided to abandon the “dead donor rule” and sanction “physician-assisted suicide”.<sup>2</sup>

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<sup>1</sup> Richards B, Rogers WA. Organ donation after cardiac death: legal and ethical justifications for antemortem interventions. *Med J Aust* 2007; 187: 168-170.

<sup>2</sup> Verheijde JL, Rady MY, McGregor J. Recovery of transplantable organs after cardiac or circulatory death: transforming the paradigm for the ethics of organ donation. *Philos Ethics Humanit Med* 2007; 2: 8. DOI: 10.1186/1747-5341-2-8.

<sup>3</sup> Sprung CL, Maia P, Bulow HH, et al. The importance of religious affiliation and culture on end-of-life decisions in European intensive care units. *Intensive Care Med* 2007; 33: 1732-1739. DOI: 10.1007/s00134-007-0693-0.

<sup>4</sup> Ornstein C, Weber T. Doctor charged in death of donor. A transplant surgeon is accused of attempting to hasten a patient's demise in order to make use of his organs. *Los Angeles Times* 2007; 31 Jul: 1. <http://pqasb.pqarchiver.com/latimes/advanced-search.html> (accessed Dec 2007).

<sup>5</sup> Kesselring A, Kainz M, Kiss A. Traumatic memories of relatives regarding brain death, request for organ donation and interactions with professionals in the ICU. *Am J Transplant* 2007; 7: 211-217. □

James Tibballs

**TO THE EDITOR:** Richards and Rogers<sup>1</sup> claim that antemortem interventions on an organ donor to improve organ viability for donation after cardiac death (DCD), such as administration of heparin and femoral vessel cannulation, are ethically and legally justified. Their reasoning is flawed.

Their ethical argument is twofold. First, they argue that, just as consent for appen-

dectomy is broad and does not encompass details of the operation, so too the consent for organ donation is broad and does not exclude antemortem procedures. This is drawing a long bow. While details of appendectomy are in the patient's best interests while alive, interventions performed on a potential donor while alive for organ procurement after his or her death are not.

It would be clear to potential donors signing a consent form giving permission for organs to be harvested *after* they die that they are not also giving permission for procedures to be performed while still alive. If potential donors discover that interventions which may hasten or contribute to their death could be done on them without their express consent, adverse publicity would reduce organ donation. Not only is the proposal disingenuous, it would be challenging indeed to find a potential donor willing to be harmed by treatment in order to be the donor of better organs!

The authors' second ethical argument, which relies on a conference report,<sup>2</sup> is:

There is no evidence that, in the absence of active bleeding, administration of heparin would cause sufficient bleeding to contribute to death.<sup>1</sup>

The underlying assumption is that full heparinisation carries no risk. This is wrong — major haemorrhagic complications of even therapeutic heparinisation have long been recognised.<sup>3</sup> Moreover, the conference report also stated:

The appropriate timing for administration of anticoagulants and vasodilators during the DCD process is unresolved. Flushing organs with anticoagulants/vasodilators after procurement may be as effective as pre-procurement administration.<sup>2</sup>

Thus, their argument is based on a statement taken out of context and against evidence.

Ethical guidelines on the subject conflict. The National Health and Medical Research Council (NHMRC) guidelines state that:

Where the law permits, it is ethical to proceed with these [antemortem] inter-

### Guardianship and Administration Act 1986 (Vic), section 38(1)

To determine a patient's best interests, a guardian must consider:

- (a) the wishes of the patient, so far as they can be ascertained; and
- (b) the wishes of any nearest relative or any other family members of the patient; and
- (c) the consequences to the patient if the treatment is not carried out; and
- (d) any alternative treatment available; and
- (e) the nature and degree of any significant risks associated with the treatment or any alternative treatment; and
- (f) whether the treatment to be carried out is only to promote and maintain the health and well-being of the patient; and
- (g) any other matters prescribed by the regulations. ♦

ventions if: ... interventions will not contribute to the cause of death or compromise the continuing care of the patient.<sup>4</sup>

In contrast, section 2(6)(h)(i) of the New South Wales Health guidelines<sup>5</sup> advises against the use of antemortem interventions, because they would unlawfully contravene section 46(2)(b) of the *Guardianship Act 1987* (NSW), which restricts guardians to consenting to treatments with the purpose of "promoting or maintaining the health and well-being" of the person involved. Whether one agrees or disagrees with either guideline, they do not constitute law.<sup>6</sup>

Richards and Rogers' legal argument relies merely on fulfilment of a donor's desire to be an organ donor as justification under the various *Guardianship Acts*. However, this argument can only apply when the antemortem interventions are not harmful to the potential donor; heparinisation is potentially harmful, and femoral vessel cannulation is clearly harmful.

The NSW guidelines are criticised for interpreting the patient's best interests requirement of the *Guardianship Act* too narrowly, and therefore do not constitute a reason to not perform antemortem interventions. But I consider this argument to be hoisted on its own petard: it is equally too narrow to focus on the wishes of the patient to be a donor as justification to perform antemortem interventions. The legal requirement is clearly illustrated in the *Guardianship and Administration Act 1986* (Vic), which stipulates that a guardian

must take account of *all* of several factors in determining if a treatment is in the patient's best interests (Box).

Lastly, an attempt is made to buttress the legal argument by reference to *Airedale NHS Trust v Bland*, in which the House of Lords permitted withdrawal of life-sustaining treatment to allow a man in a persistent vegetative state to die. Since the Lords considered best interests to include wider interests than continuance of futile treatment, Richards and Rogers, by analogy, believe that this concept is sufficient to justify performance of antemortem interventions on potential donors. In fact, the House of Lords did not base their decision on best interests, but rather on "the futility of the treatment which justifies its termination".<sup>7</sup> Comments by the Lords about other best interests did not form part of the court's decision and so do not constitute law, cannot be invoked in other circumstances, and in any case, do not apply to Australian jurisdictions.

There is neither ethical nor legal justification to perform antemortem interventions on a potential donor for the benefit of a recipient. Noble as the proposal may first appear, it is a Rubicon not to be crossed.

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1 Richards B, Rogers WA. Organ donation after cardiac death: legal and ethical justifications for antemortem interventions. *Med J Aust* 2007; 187: 168-170.

2 Bernat JL, D'Alessandro AM, Port FK, et al. Report of a National Conference on Donation after Cardiac Death. *Am J Transplant* 2006; 6: 281-291.

3 Mant MJ, O'Brien BD, Thong KL, et al. Haemorrhagic complications of heparin therapy. *Lancet* 1977; 1: 1133-1135.

4 National Health and Medical Research Council. Organ and tissue donation after death, for transplantation. Guidelines for ethical practice for health professionals. Canberra: Australian Government, 2007. [http://www.nhmrc.gov.au/publications/synopses/\\_files/e75.pdf](http://www.nhmrc.gov.au/publications/synopses/_files/e75.pdf) (accessed Aug 2007).

5 New South Wales Health. Organ donation after cardiac death: NSW guidelines. Sydney: NSW Health, 2007: 6. [http://www.health.nsw.gov.au/policies/gl/2007/GL2007\\_012.html](http://www.health.nsw.gov.au/policies/gl/2007/GL2007_012.html) (accessed Aug 2007).

6 Tibballs J. Clinical practice guidelines in the witness box: can they replace the medical expert? *J Law Med* 2007; 14: 479-500.

7 *Airedale NHS Trust v Bland* [1993] 2 WLR 316, 372. □

Judith R Kennedy

**TO THE EDITOR:** In their recent article,<sup>1</sup> Richards and Rogers connect some ideas about patient autonomy, non-maleficence and laws relating to consent with specific antemortem activities, but their main "justification" for these activities is a practice termed donation after cardiac death (DCD). This practice has been introduced in the hope of increasing the availability of organs for transplant. It involves removing cardiorespiratory support and withholding resuscitation, then harvesting organs when cardiac death occurs.<sup>2,3</sup>

As illustrated by the New South Wales Health DCD guidelines (Box), DCD represents a significant shift in practice — from maintaining cardiorespiratory support for the purpose of organ preservation after an acutely injured patient has died (the brain death scenario), to removing life support with the explicit intention of allowing expeditious death and organ removal (the cardiac death scenario).<sup>3</sup>

There are two facts of clinical practice that I suggest should be taken into account in the ethical or legal justification of any DCD-related activity and also before the "re-introduction of expanded use of DCD" and "introduction of a NSW DCD program" mentioned in the NSW guidelines.<sup>3</sup> The first is medical: the earlier a prognostic call is made in relation to catastrophic injury, the greater the chance it could be wrong. The second is psychological: doctors treating severely injured patients are aware of the need for organs in good condition and the importance of opportunity, and generally appreciate that organ transplant programs are one way that good can come out of tragedy. These simple facts are ethically and legally problematic because they could increase the probability of overcalling the

### Extract from the New South Wales Health guidelines<sup>3</sup>

#### Donor Category 3

Waiting cardiac death after planned treatment withdrawal – Known and limited warm ischaemic time: "Controlled"

#### Donor selection criteria, point 3

Catastrophic, irreversible cardiorespiratory or neurological injury, not fulfilling brain death criteria, where withdrawal of life sustaining treatment is considered appropriate and following which rapid progression to death is anticipated. ♦

extent and permanency of injury in an acutely injured patient, which in turn increases the probability of the patient being denied his or her chance to survive.

Accordingly, any ethical or legal justification for submitting an injured patient to any antemortem activity relating to harvesting their organs after death — including withdrawing cardiorespiratory support and withholding resuscitative efforts — requires safeguards that protect the treatment paradigm for the patient. This requires two things: demonstrating that the care of the patient is not being compromised by his or her donor status; and making consent (in the full sense of the term) inviolate. I would argue that the former is impossible in the acute severe injury scenario of DCD, and the latter requires a legal step between end-of-life decisions and end-of-life action of the kind referred to by Justice O’Keefe in *Northridge v Central Sydney Area Health Service*, with respect to withdrawal of life-sustaining treatment and medical support from patients in a persistent vegetative state.<sup>4</sup> As O’Keefe noted of such cases in the United Kingdom, where there are clear guidelines regarding lawful withdrawal of treatment:

[T]he requirement that termination of treatment, artificial feeding and hydration be only with the prior sanction of a High Court judge, is a clear recognition of the right of unconscious patients to have their right to life protected by the full power of the law.<sup>4</sup>

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2 National Health and Medical Research Council. Organ and tissue donation after death, for transplantation. Guidelines for ethical practice for health professionals. Canberra: Australian Government, 2007. [http://www.nhmrc.gov.au/publications/synopses/\\_files/e75.pdf](http://www.nhmrc.gov.au/publications/synopses/_files/e75.pdf) (accessed Dec 2007).

3 New South Wales Health. Organ donation after cardiac death: NSW guidelines. Sydney: NSW Health, 2007; 5, 6, 18. [http://www.health.nsw.gov.au/policies/gl/2007/GL2007\\_012.html](http://www.health.nsw.gov.au/policies/gl/2007/GL2007_012.html) (accessed Dec 2007).

4 *Northridge v Central Sydney Area Health Service* [2000] NSWSC 1241. □

**Wendy A Rogers and Bernadette J Richards**

**IN REPLY:** The issues raised by Rady and colleagues, Tibballs, and Kennedy include claims that antemortem interventions for organ donation after cardiac death (DCD) are harmful, involve inadequate consent procedures, and require abandoning the “dead donor rule”.

To clarify, we advocate the use of antemortem heparin in people with a known desire to be organ donors; we do not advocate potentially harmful or disruptive interventions such as femoral vessel cannulation.

Rady and colleagues cite their recent article<sup>1</sup> to support the claim that antemortem interventions are harmful. However, that article makes no reference to antemortem interventions such as heparin hastening death. In contrast, Bernat et al clearly state:

The use of heparin is considered controversial on the basis of theoretic concerns that it may hasten the death of the donor. Nevertheless, *there is no evidence that heparin causes sufficient bleeding after withdrawal of treatment and thus, causes death.*<sup>2</sup> (emphasis added)

This position is supported by international evidence-based protocols that advocate the use of antemortem heparin, such as those from Britain<sup>3</sup> and Canada.<sup>4</sup>

Rady and colleagues’ claim that antemortem interventions are criminal in the United States seems to relate to a US surgeon who was charged with murder after allegedly administering 200 mg of morphine and 80 mg of lorazepam to hasten patient death in a failed DCD case.<sup>5</sup> These drugs are standardly used in therapeutic doses for end-of-life care. Our proposal supports best practice end-of-life care; we do not suggest this care should be delivered by the transplant surgeon. The example of one apparent rogue practitioner is not evidence that antemortem interventions are unethical.

We agree with Tibballs that the wishes of the patient constitute only one of many elements listed in the various Guardianship Acts that should be taken into account when determining best interests. However, we are aiming at the spirit of the law rather than the narrower “black letter” view, as this ignores the situation of dying patients whose physical interests are extremely limited, leaving their wishes as the final expression of their humanity.

With respect to Tibballs’ assertion that *Airedale NHS Trust v Bland* is not law in Australia, we acknowledge that it is not

binding, but the persuasiveness of the judicial reasoning of the House of Lords has been well recognised and has provided guidance and been cited with approval in numerous decisions in Australia. Recent examples include *Harrington v Stevens*<sup>6</sup> and *Application of Herrington, re King*.<sup>7</sup>

In relation to Kennedy’s comments about *Northridge v Central Sydney Area Health Service*, this difficult case (in which there was disagreement between hospital doctors and the patient’s family about treatment withdrawal) can be distinguished from our argument. We do not advocate acting contrary to the wishes of a patient’s family members. With DCD, the decision to withdraw treatment is made by the family and treating doctors independently of and before any discussions about donation. We recognise the potential psychological stresses involved in caring for patients in this situation. Clarity about what is legally and ethically acceptable, and clear separation of decisions to withdraw treatment from discussions about donation may help to alleviate some of this stress.

We do not advocate hastening or redefining death, nor do we suggest abandoning informed consent. We believe, for the reasons given in our article, that non-harmful antemortem interventions are legally and ethically justifiable.<sup>8</sup>

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1 Verheijde JL, Rady MY, McGregor J. Recovery of transplantable organs after cardiac or circulatory death: transforming the paradigm for the ethics of organ donation. *Philos Ethics Humanit Med* 2007; 2: 8. DOI: 10.1186/1747-5341-2-8.

2 Bernat JL, D’Alessandro AM, Port FK, et al. Report of a National Conference on Donation after Cardiac Death. *Am J Transplant* 2006; 6: 281-291.

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6 *Harrington v Stevens* (2006) 226 CLR 52.

7 *Application of Herrington, re King* [2007] VSC 151.

8 Richards B, Rogers WA. Organ donation after cardiac death: legal and ethical justifications for antemortem interventions. *Med J Aust* 2007; 187: 168-170. □