

PAPER

Is there a place for CPR and sustained physiological support in brain-dead non-donors?

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ABSTRACT

This article addresses whether cardiopulmonary resuscitation (CPR) and sustained physiological support should ever be permitted in individuals who are diagnosed as brain dead and who had held previously expressed moral or religious objections to the currently accepted criteria for such a determination. It contrasts how requests for care would normally be treated in cases involving a brain-dead individual with previously expressed wishes to donate and a similarly diagnosed individual with previously expressed beliefs that did not conform to a brain-based conception of death. The paper first focuses narrowly on requests for CPR and then expands its scope to address extended physiological support. It describes how refusing the brain-dead non-donor's requests for either CPR or extended support would represent enduring harm to the antemortem or previously autonomous individual by negating their beliefs and self-identity. The paper subsequently discusses potential implications of policy that would allow greater accommodations to those with conscientious objections to currently accepted brain-based death criteria, such as for cost, insurance, higher brain formulations and bedside communication. The conclusion is that granting wider latitude to personal conceptions around the definition of death, rather than forcing a contested definition on those with valid moral and religious objections, would benefit both individuals and society.

CAN BRAIN-DEAD INDIVIDUALS BE BENEFITED OR HARMED BY MEDICAL TREATMENTS?

'Therapeutic hypothermia' is sometimes used in brain-dead organ donors to reduce delayed graft function rates in recipients.¹ Hypothermia is among numerous therapies applied to brain-dead organ donors to improve recipient outcomes. Cardiopulmonary resuscitation (CPR) is another.² When these treatments are applied to brain-dead donors, their 'therapeutic' value refers to benefits for recipients. The term 'therapeutic' in this context is striking not because it applies to beneficiaries of treatments other than those primarily being treated (rubella vaccinations are another example), but rather because the patients being treated are brain dead.

This introduces a question as to whether any medical treatments could ever be considered beneficial for individuals diagnosed with brain death. In a sense, all corporal actions taken on a donor to optimise transplant outcomes are performed according to the previously autonomous person's expressed wishes to donate. When surrogates make the

decision, all treatments thereafter accord with what they claim is what the donor would have wanted, or perhaps to extract something enduringly good from a tragically curtailed life.

Such actions benefit survivors, but they also benefit the deceased, by honouring their legacy and enhancing the good that they brought with their lives. Societies with opt-in requirements for organ donation reinforce acknowledgement that donation reflects the deceased's consciously lived values, altruism or wishes to have lived meaningfully. Some assert that posthumously overriding a decision to donate would represent an affront to the dead would-be donor.^{3,4}

This comports with a view that to act against a deceased individual's ideals in a way that interrupts, rejects or nullifies the narrative self-identity they established during their lives would represent posthumous harm.⁵ Many bioethicists would agree that when a deceased individual's surviving interests are thwarted, the antemortem individual is injured.⁶ Many cultures hold that the living can act both to benefit and harm the deceased, and that harming the dead undermines the humanity of the living.

HONOURING REQUESTS FOR CPR IN BRAIN-DEAD DONORS AND NON-DONORS

Consider, then, two men in adjoining intensive care unit rooms, both victims of the same horrific bus crash. Both have been determined by rigorous assessment to meet currently accepted clinical criteria for brain death (irreversible loss of whole brain function, including the brain stem).⁷⁻⁹ The first man's wife claims he had always expressed wishes to donate his organs, were he ever declared brain dead. She explains that they both adhere to a belief system that forms an important context for how they live their life and approach their decisions. After consulting with their chaplain, she feels comfortable with the decision. For her, it 'just feels right to honour him by giving the gift of life'. The second man's wife understands his brain is severely damaged but does not accept that he is dead. She explains that she and her husband adhere to a belief system that forms an important context for how they live their life and approach their decisions. She affirms that her husband believed that someone with a beating heart is alive, and that life is as valuable as any. After consulting with their chaplain, she feels comfortable with the decision. She requests that all measures be used to keep her husband alive, including CPR, and claims unequivocally that is what he would have wanted.

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In most circumstances, the first woman's request would be readily accepted. Her husband would be promptly prepared for donation. If he experienced cardiopulmonary arrest, many would consider CPR to salvage organ function. In contrast, the second woman's request would likely be challenged in many hospitals, if not most. In sensitive, respectful terms, strong efforts would nonetheless be made to convince her that her husband was legally dead. She may know that some diagnosed as 'brain dead' have remained biologically alive for months or even years after the diagnosis.¹⁰ Nevertheless, attempts to prolong her husband's physiological functioning would be resisted by many healthcare personnel. Ethics consultation might be requested, and the hospital's legal service would likely be notified. After a rigorous process defined by the hospital's well-considered policy for such intractable situations, the team might proceed either to transfer the patient to a facility willing to accept such patients or to withdraw life support against her (and the patient's) wishes.¹¹ In many circumstances, the team would institute a 'unilateral' do-not-resuscitate (DNR) order in the event of cardiopulmonary arrest.

Why ought we treat these two requests differently? If we would not question the first woman's request to make her brain-dead husband a donor in accordance with his life view, why would we question the second woman's determination that her brain-dead husband was alive, in accordance with his life view? Moreover, why would we perform CPR for the brain-dead donor but not for the brain-dead non-donor?

For many, the answer is self-evident. To act against expressed wishes by preventing an eligible brain-dead individual from donating would represent an act of grave disrespect to him and harm to his desired legacy, and would prevent saving one or more lives. Accordingly, some would assert that CPR should be performed if the organs remain salvageable. Regarding the non-donor, many would believe strongly (even if they do not state so plainly) that 'dead is dead'. They may believe that CPR would be futile, and even if they believed that CPR would not be physiologically futile—because it could potentially reverse the cardiac arrest—it would benefit neither the already dead individual nor society. Many clinical team members would experience substantial distress caring for the man, and even more distress by performing CPR. Many would bristle at the perceived futility. Many would also see CPR as an unjustifiably violent act that debases the dead individual. Even if he could not experience suffering, caretakers may feel keenly that they are injuring his bodily integrity and dignity—that which makes him human beyond brain activity. It may violate caretakers' own sense of humanity to perform acts that undermine the human dignity of any individual, alive or dead. Here is where we may define the limit of our deference to a patient's values—when we perceive no potential benefit to the individual or society and that the harms we cause to the individual would undermine our own sense of humanity. At this point, caretakers may rightfully say 'no, we are so sorry, but it is too much to ask us to do this'.

But might such a determination in some cases represent a value calculus, or reflect a belief system that is different from but no more or less legitimate than that of the patient? Given that some experts in medicine and bioethics believe that irreversibly lost whole brain function and biological death are distinctly different,^{11–15} some in society may reasonably believe that an individual with a beating heart is alive, and that the value of that life is as deep as any. For the surrogate seeking in good faith to represent her loved one's values in such cases, to not accede to her request for CPR may represent an affront to those values. In her eyes, and in the context of her husband's

values, by not intervening to attempt CPR, caretakers may be violating the very dignity and personhood of the patient that the caretakers desire to uphold. Moreover, even by the standards of many who believe that irreversible cessation of whole brain function is undeniably death, if we would not question the surrogate's good faith in representing the patient's values, then not acting in accordance with the patient's wishes may be an act of disrespect toward his belief system and rejection of his life narrative and self-identity. The refusal may therefore dishonour the brain-dead man. Within the context of a society that honours and recognises tangible harms to the dead, not performing CPR under these conditions may bring more harm to the brain-dead individual than any physical actions that, by definition, cannot cause pain.

Of course, limits exist to which caretakers acting in good conscience can defer to patients' beliefs. We would never, for example, perform a medical procedure to help a patient fulfil a ritualistic self-immolation. Any act of perceived violence and mutilation in a corpse would be anathematic; refusing to perform CPR is not analogous. Keeping in mind that treatments applied to brain-dead donors are highly invasive, acts of similar magnitude in brain-dead non-donors would take us too far outside our sense of humanity.

Would a short, circumscribed and minimally invasive code attempt as some have described represent such violence?^{16 17} Yes, perhaps, in someone with a severe bleeding diathesis or metabolic bone disease. But perhaps not in someone whose body is no more injury prone than others in whom we might consider resuscitation. In these cases, it would seem reasonable for caretakers to yield to surrogates' wishes to preserve the human dignity of their loved one, and to do so with the caretakers' humanity intact. Some might see doing this as providing a primary benefit to the surrogate. But even a symbolic act of CPR might also be seen from within the patient's belief system as providing a primary benefit to the brain-dead individual. Certainly, we may refuse to do CPR when we see it as physically harmful and causing pain to the patient, but given widespread agreement that brain-dead patients are irreversibly unconscious (despite disagreement that they are 'dead'), we could be confident that CPR in these patients would not cause pain or suffering.

Those who advocate for circumscribed or symbolic CPR specifically assert its usefulness for surrogates who cannot bring themselves to authorise a DNR order. They are not proposing its appropriateness for individuals who reject the concept of brain death. A dilemma then arises because full CPR would likely restore physiological function in some brain-dead non-donors. If the non-donor earnestly objected to the concept of brain death, honouring their values would require an authentically endeavoured life-sustaining treatment, rather than a symbolic or intentionally circumscribed gesture. If a genuine CPR attempt were carried out according to the brain-dead individual's previously expressed wishes, it would be difficult to claim that the attempt is causing either suffering or dignitary harm, just as it would be difficult to claim that it would cause harm to remove the patient's organs, if that were their desire. If we were being truly faithful to honouring that patient's deeply held preferences and values, the full CPR attempt would seem reasonable.

HONOURING REQUESTS FOR SUSTAINED PHYSIOLOGICAL SUPPORT IN BRAIN-DEAD NON-DONORS

The analogy between the donor and non-donor untethers here because aggressive interventions for organ viability would be

time-limited for the donor but potentially not for the non-donor. In the setting of the brain-dead non-donor's previously expressed values then, how could we restrict permissible procedures to only CPR and exclude more invasive measures such as extracorporeal membrane oxygenation (ECMO), tracheostomies and gastrostomies? These procedures may not be 'violent' or 'mutilating'. Du Toit and Miller argue that it may be reasonable to permit treatments that indefinitely sustain biological function, such as tracheostomy and gastrostomy, to allow care of brain-dead patients in long-term facilities if surrogates so desire. However, they draw the limit on using 'scarce acute care resources'.¹¹ Caretakers, they assert, would be breaching their societal obligations as stewards of such resources to use them in patients with no chance of functional recovery. Du Toit and Miller cite well-established precedent allowing chronic ventilation and tube feeding at home or in long-term care facilities for patients in persistent vegetative states (PVS). They observe that there would be little to distinguish objectives of care in these settings for brain-dead patients compared with those with properly diagnosed PVS.

Du Toit and Miller's appeal to responsible allocation of healthcare resources in limiting the utilisation of scarce acute care procedures in brain-dead patients helps draw a reasonable line preventing intensive care from escalating in these patients. ECMO may reasonably be withheld from those diagnosed with brain death because the technology is costly and it is relatively scarce and requires intensive management by highly trained and specialised acute care personnel. By comparison, CPR is cheap, and tracheostomies and gastrostomies are relatively commonplace. Performing these procedures in one patient will not prevent others from receiving them.

DuToit and Miller do not consider in detail the costs associated with sustaining individuals in PVS or the additional costs of caring for brain-dead individuals who would want to be so sustained. In the USA, the cost to maintain individuals in PVS has most recently been estimated to be between one and four billion dollars.¹⁸ The costs are more uncertain for sustaining physiological function in those diagnosed with brain death. Comparison is difficult because expected physiological longevity for the conditions may differ substantially. Some suggest the cost is 'relatively minimal'—that is, 'little more than artificial nutrition and hydration'.¹⁹ Others believe the cost could be considerable, given extended periods some individuals have subsisted on mechanical ventilation.²⁰ The potential number of patients is difficult to estimate from populations where religious or moral objections are prevalent. For example, some Orthodox Jews adhere to deep-seated and rigorously adjudicated injunctions against brain-based death determinations.^{21–25} These individuals see full moral standing as inherent to any breathing human, regardless of sentience. Ultraorthodox adherents to this interpretation of Jewish law reportedly constitute approximately 8% of the Israeli population.²¹ It is unclear how many in the USA actually do carry or would act on those objections. Many would not. Only one state, New Jersey, permits indefinite extensions of physiological support in individuals who hold religious objections to brain death, in part to accommodate its Orthodox Jewish population.^{23 25 26} Healthcare institutions in New Jersey have not reported burdensome consequences in the 25 years since these exemptions were first granted.

A few states, such as New York, California and Illinois, currently permit exemptions that are substantially truncated compared with what New Jersey allows.^{7 20 23 25–27} Some maintain that 'reasonable accommodations' for conscientious objections to brain-based death determination should be broadly permitted within the USA, although the definition of 'reasonable' remains

nebulous.^{23 27} L Syd Johnson avers that only New Jersey's accommodations reflect appropriate respect for 'legitimate and reasonable disagreement about the definition of death' in a pluralistic society. Under these circumstances, she asserts, extension of insurance coverage to brain-dead patients (as is required in New Jersey) would be appropriate to accommodate reasonable conscientious objections to brain-based death determination, and to avoid coercive economic pressures on families and undue financial influence on healthcare providers.

This seems about right. Indeed, providing a predetermined time-limited extension of physiological support to those with religious objections to brain-based determination of death, rather than offering indefinite accommodations, would be little different from performing a symbolic, purposefully circumscribed CPR attempt instead of offering full opportunity for extended biological function. The previously autonomous (if not antemortem) individual who would have desired continued treatment may be harmed in similar fashion.

In practice, many individuals with irreversible loss of whole brain function will subsist for only a relatively short time.¹⁰ Even for individuals sustained for longer periods, insurance ought not be a limitation to such accommodations. Some commentators have recently suggested that extended insurance should be made available with costs borne prospectively by the individuals, in the form of insurance riders.^{28 29} In a pluralistic society, this would seem a reasonable accommodation.

Although not uncommon, an insurance paradigm like this would reify respect for certain moral and religious beliefs only for those able to pay. To rectify this ostensible injustice, we might prevail on communities in which such beliefs are prevalent—and who have lobbied for accommodations to be legally available—to establish charitable funds that offset the insurance costs for their constituents. Regardless, if all individuals with such beliefs cannot be accommodated because they cannot afford the insurance, avoiding such injustice entirely does not outweigh the rights of some to be accommodated if they can afford it. This is not an uncommon scenario in other medical realms in which patients' choices often reflect religious and moral beliefs, such as with reproductive health, for which public funding may not be available for all services.

A key utilitarian distinction underlies the allowance of life insurance for sustaining function in the brain-dead donor and non-donor. While providing support to both would uphold each individual's antemortem/prior autonomy, expenses borne by insurance or the state on behalf of the donor serve an important (and, some would argue, primary) societal purpose—organ transplantation—that is not served by offering such resources to the non-donor. Still, important utilitarian objectives are served by allowing non-donors access to third-party coverage. Paramount, perhaps, is preventing one dominant value system from too rigidly suppressing reasonable minority views in a pluralistic society, particularly around policy whose philosophical and biological premises remain legitimately contended.

Of course, direct financial costs are not the only resources used by sustaining care in brain-dead individuals. Even if expenses are relatively low, the care requires trained personnel and dedicated bed space, for which resources are finite. One could reasonably argue that a request for such care should be denied if, as a result of the care, a subsequent paucity of resources threatened the health of other patients with greater chances of functional recovery. Similar to Du Toit and Miller's argument about acute care, this position appeals to resource allocation priorities rather than to definitions of death. Accordingly, it would be difficult to argue that such care should

be withheld from those diagnosed with brain death and not those with PVS, given the similar objectives of care.

HONOURING HIGHER BRAIN CONCEPTIONS OF DEATH

A society that allowed individuals to draw on their own moral or religious beliefs in defining death for themselves would also accommodate, as Robert Veatch suggests, organ donation requests from those who adhere to higher brain formulations.³⁰ If our unfortunate bus crash victims were diagnosed with PVS rather than brain death, and both had previously affirmed strong beliefs that an individual who lacked capacity for consciousness was, in essence, a dead body, it would be inherently discriminatory for society to grant one man's previously expressed wishes to have life-support withdrawn, but to prevent the other man from donating his organs, if that were his wishes. Blocking the donation would represent posthumous harm equivalent to preventing donation from a whole brain-dead individual with similarly expressed desires.

It is a different matter to determine whether organ donation should be permissible for an anencephalic child whose parents made the request using a well-articulated 'higher brain' conception of death. The question for newborns is more complex than for adults with previously articulated values. Declining an adult's request would, within his worldview, represent posthumous harm. The same could not be claimed for newborns. Further, anencephaly falls within a broad spectrum of brain development disorders in newborns that would require careful analysis before firm conclusions could be drawn. Nonetheless, loving, well-informed and reasonable parents are generally granted considerable deference to make medical decisions about their children in accordance with the parents' preferences and values. As our understanding of pluralism has matured within medicine, this is increasingly true even when the parents' values and belief systems differ substantially from those of the preponderance of caretakers—particularly when the harms are minimal. Given the cohort of eminent thinkers who adhere to a higher brain definition for death, it would be difficult to claim that the parents of the anencephalic newborn are asking unreasonably. The determination then hinges on harms, and whose values prevail in defining them.

REFRAMING LAWS AND CONVERSATIONS

If individuals were permitted more latitude to shape medical decisions according to their moral or religious conceptions of death, how should the law be framed and how should individuals' views be elicited? Robert Veatch and Lainie Ross have recently advanced a persuasive proposal to create law that holds the whole brain criterion for death as a centrist default, with permission granted to those adhering to reasonable alternative conceptions.²⁹ Were such law to be instituted, it is not clear why, in practice, discussions about brain death should be different from any major medical decisions that involve morally controversial technologies and treatments. The communication, which would likely be with surrogates, should conform to general standards of patient-centred care, with frank and open solicitation of surrogates' understanding of their loved ones' values and preferences. Clinical options and related controversies should be discussed in accordance with those values. The conversations might encompass brain death and organ transplantation and, as far as possible, what it would mean to be dependent on technology to subsist, and what it would mean to exist in permanent unconsciousness.

CONCLUSION

For those who embrace its premises, the legalised recognition of irreversibly absent whole brain function as death in the context of ongoing physiological function is a reasonable societal constraint on technology's power. It nonetheless requires adherence to biological and philosophical premises that have been rejected by many thoughtful secular and non-secular commentators. If society's use of brain death empowers humanity against the oppressive grip of medical technology, society must be careful to prevent its own mores from taking too tyrannical a hold themselves. If society cannot allow autonomous, well-informed individuals from acting on their values to define death for themselves, then society replaces technology's tyranny with its own arbitrary power.

Instead, room ought to be made for their (previous) autonomy to be exercised, even if posthumously. If a CPR attempt dignifies a brain-dead individual by validating their belief system and honouring the narrative they established for themselves during their life, then the benefits of performing CPR outweigh the harms. If physiological function persists, continued and even indefinite support should be permitted, if requested, with reasonable constraints recognised around scarce resources. With time, by honouring rather than negating the values of those with reasonable alternative conceptions of death, caretakers and society might see these actions as enhancing their own humanity, rather than degrading it.

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