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THE TELL-TALE HEART: ETHICAL AND LEGAL IMPLICATIONS OF *IN SITU* ORGAN PRESERVATION IN THE NON-HEART-BEATING CADAVER DONOR

Sarah D. Barber*

I. INTRODUCTION

TODAY, ORGAN TRANSPLANTATION offers hope to patients who a few decades ago would have had no chance for survival. With the development of new surgical techniques and immunosuppressive drugs, the life-saving potential of organ transplantation is undisputed. Despite these impressive gains in medical technology, however, the acute shortage of transplantable organs continues to be the limiting factor for organ transplantation.¹

Currently, most organ transplants involve organs from brain-dead donors whose hearts are still beating, otherwise known as heart-beating cadaver donors (HBCD).² These patients make ideal donors because their organs can be maintained in a healthy condition through the use of life support until the family consents to removal of the organs and an appropriate recipient is located. To be declared brain dead, these

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1. See, e.g., Roger W. Evans et al., *Donor Availability as the Primary Determinant of the Future of Heart Transplantation*, 255 JAMA 1892, 1892 (1986) (arguing supply is the most critical determinant of the future of heart transplants).

2. Stuart J. Youngner & Robert M. Arnold, *Ethical, Psychosocial, and Public Policy Implications of Procuring Organs From Non-Heart-Beating Cadaver Donors*, 269 JAMA 2769, 2769 (1993). See also E. Morpurgo et al., *Is Warm Ischemia the Main Limiting Factor in the Use of Non-Heart-Beating Donors in Renal Transplantation?*, 25 TRANSPLANTATION PROC. 1509, 1509 (1993) (using HBCDs as "preferred" source of kidneys); P. Rigotti et al., *Non-Heart-Beating Donors: An Alternative Organ Source in Kidney Transplantation*, 23 TRANSPLANTATION PROC. 2579, 2579 (1991).

patients must suffer irreversible cessation of the functions of the whole brain, including the brain stem.³ Unfortunately, the supply of brain-dead donors is inadequate to meet the current demand for organs.⁴

The chronic shortage of organs has renewed interest in an alternative source of organs, particularly for kidneys, which could increase significantly the number of organs available for transplantation.⁵ Recent studies indicate that non-heart-beating cadaver donors (NHBCD) represent an untapped reservoir of transplantable organs.⁶ While NHBCDs are usually accident victims who die of cardiac arrest in the emergency room or shortly after admission, they also can be stroke or heart attack victims.⁷ For example, consider the following hypothetical case: A seventeen-year-old male accident victim arrives in the emergency room in full cardiac arrest. He has suffered extensive head trauma as the result of an automobile collision. For approximately fifteen minutes, doctors try to resuscitate him, but they are unable to stabilize him or to restart his heart. His organs, including his kidneys, appear undamaged. His doctors are unable to locate his family and they can find no organ donor card. Thus, no attempt can be made to seek permission

3. RENÉE C. FOX & JUDITH P. SWAZEY, SPARE PARTS: ORGAN REPLACEMENT IN AMERICAN SOCIETY 61 (1992) (noting that the criteria for the declaration of brain death were developed by the medical and legal communities in the 1970s). See also Paul A. Byrne & Richard G. Nilges, *The Brain Stem in Brain Death: A Critical Review*, 9 ISSUES IN L. & MED. 3, 19-20 (1993) (supporting the requirement that all functions of the brain be lost).

4. F. T. Rapaport & D. Anaise, *Technical Aspects of Organ Procurement From the Non-Heart-Beating Cadaver Donor for Clinical Transplantation*, 25 TRANSPLANTATION PROC. 1507, 1507 (1993) ("Careful studies have demonstrated that, even if we were to attain an ideal 95% consent rate for organ donation from potential brain-dead donors, the resulting supply would fall far short of the actual need").

5. See D. Anaise & F. T. Rapaport, *Use of Non-Heart-Beating Cadaver Donors in Clinical Organ Transplantation—Logistics, Ethics, and Legal Considerations*, 25 TRANSPLANTATION PROC. 2153 (1993) (advocating the use of non-heart-beating cadaver donors to increase the supply of organs for clinical transplantation).

6. A. M. Castelo et al., *Update of Our Experience in Long-Term Renal Function of Kidneys Transplanted From Non-Heart-Beating Cadaver Donors*, 25 TRANSPLANTATION PROC. 1513, 1513 (1993) ("The alternative initiated years ago to take advantage of kidneys from non-heart-beating cadaver donors (NHBCDs) is steadily increasing to maintain active transplant programs").

7. See Anaise & Rapaport, *supra* note 5, at 2153 (asserting there exists a large source of organs potentially available in trauma victims who suffer cardiac arrest and die in emergency rooms). See also T. J. M. Ruers et al., *Non-Heart-Beating Donors: A Successful Contribution to Organ Procurement*, 18 TRANSPLANTATION PROC. 408, 408 (1986) ("These donors die of circulatory arrest, e.g., due to heart disease, aneurysm, or multitrauma").

from his family to retrieve his organs. As a consequence, his organs rapidly deteriorate, rendering them unusable for transplantation. Meanwhile, three other patients in the hospital grow steadily worse as they wait for a kidney or liver.

This is no longer the only possible outcome. Consider the alternative: The physicians, after declaring the victim dead, initiate a procedure to preserve his kidneys for possible donation. As soon as the decision to start *in situ* preservation is made, doctors institute cardiac massage and artificial ventilation to provide the organs with oxygenated blood. The physicians make a longitudinal incision in the donor's groin, and insert a catheter into the common iliac artery and then into the aorta. The catheter uses two balloons which inflate to isolate the arteries leading to the kidneys. Via the catheter, a cold solution is infused into the aorta and the kidneys. Next, doctors make an additional incision in the abdomen to provide for an outflow catheter. Later, once the family has been located and given the opportunity to agree to organ donation, the kidneys are removed from the body. In essence, perfusion of the kidneys buys time and prevents irreversible damage to the organs which otherwise would occur within thirty minutes of cessation of cardiopulmonary function. Instead, the surgeons have up to five hours to counsel the family and to obtain their consent before removing the kidneys for transplantation.⁸

In reality, doctors are not likely to attempt *in situ* perfusion in a case such as the one described above. Their reluctance to institute *in situ* preservation is based primarily on the medical community's perception that such a procedure is ethically and legally problematic without first obtaining the donor's or the family's consent. This Note focuses on an evaluation of these concerns and suggests a model protocol for use with NHBCDs.

Part I introduces the reader to an alternative source of organs which may help alleviate the current organ shortage, namely NHBCDs. Part II provides background on the urgent

8. Anaise & Rapaport, *supra* note 5, at 2154 (asserting that *in situ* flush cooling of NHBCD organs could preserve the organs for at least four to five hours). See also Rapaport & Anaise, *supra* note 4, at 1507-08 (describing the technical aspects of organ procurement from NHBCDs).

need for salvageable organs, particularly kidneys, and the state and federal regulatory frameworks which have attempted to meet this need. Part III examines the existing policies and proposals for increasing the supply of organs in the United States. Part IV addresses the use of NHBCDs in light of the ethical, moral, and legal issues involved and evaluates the feasibility of instituting a program using NHBCDs in the United States. Finally, part V concludes that *in situ* perfusion is a viable alternative, both legally and ethically, for increasing the number of available organs for transplantation. Part V also contains a model protocol for implementation of *in situ* preservation in the emergency room.

II. BACKGROUND

This section examines the demand for organs in the United States and the factors that have contributed to the acute shortage of transplantable organs. In addition, it also reviews existing model federal and state legislation and analyzes their impact in light of the continuing shortage of organs.

A. Demand and Supply

The need for transplantable organs exceeds the supply of donors.⁹ The most frequently performed transplants are: the kidney, heart, heart-lung, liver, and pancreas. Moreover, transplantation procedures themselves are on the rise.¹⁰ The number of transplants involving the listed organs rose from 9176 in 1985 to 15,164 in 1990.¹¹ The escalating demand for organs, especially kidneys, can be attributed to a number of factors.¹² First, while organ transplantation is still a major medical procedure, it is now considered an option for many patients who would not have been considered candidates a decade ago. Sec-

9. See FOX & SWAZEY, *supra* note 3, at 8 (noting that the number of cadaveric organ donors "plateaued" while demand for organs increased).

10. *Id.*

11. *Id.*

12. Diane L. Manninen & Roger W. Evans, *Public Attitudes and Behavior Regarding Organ Donation*, 253 JAMA 3111, 3111 (1985) ("Further complicating the overall donor situation has been the introduction of seat belt laws, laws requiring the use of child-restraint seats, and the 55-mph speed limit, all of which effectively reduce donor supply").

ond, the introduction of powerful immunosuppressive drugs, such as cyclosporine, has enabled a greater number of patients to become viable candidates for organ transplantation.¹³ While heart and liver transplants no longer are considered experimental, kidney transplants unquestionably are the most therapeutically advanced.¹⁴ Third, the federal government runs the largest organ transplantation program in the country, which focuses on providing kidneys for end-stage renal disease patients.¹⁵

The demand for kidneys is intense. For example, in the early 1990s, over 25,000 patients in the United States were on the national waiting list for kidney transplantation.¹⁶ Another 12,000 join the list every year.¹⁷ Because of the feasibility of and high demand for kidney transplants, this Note focuses primarily on the application of *in situ* organ preservation for kidney transplantation. However, *in situ* organ preservation also has been successfully performed with livers. At least theoretically, the procedure is applicable to other organs as well.¹⁸

Analyzing the cause of the organ shortage is more complex than explaining the demand. The United States depends upon a policy of "express donation" to meet its need for transplantable organs.¹⁹ Typically, doctors will ask the family to donate the organs of their loved one after brain death is declared. The family's or the donor's prior consent generally is

13. FOX & SWAZEY, *supra* note 3, at 7-8 (noting that cyclosporine was a key biomedical factor in the increase in organ transplants). See also Anaise & Rapaport, *supra* note 5, at 2153 (describing how drugs have contributed to the increased number of patients on hemodialysis who are suitable candidates for renal transplantation).

14. FOX & SWAZEY, *supra* note 3, at 9.

15. James F. Blumstein, *Government's Role in Organ Transplantation Policy*, 14 J. HEALTH POL., POL'Y & L. 5, 11 (1989) (discussing the increase in kidney transplants attributed in part to transplantation becoming a more cost-efficient alternative than dialysis).

16. Anaise & Rapaport, *supra* note 5, at 2153.

17. *Id.*

18. Castelao et al., *supra* note 6, at 1514 (describing the success of liver transplantations taken from NHBCs). See also R. Shirakura et al., *Multiorgan Procurement From Non-Heart-Beating Donors by Use of Osaka University Cocktail, Osaka Rinse Solution, and the Portable Cardiopulmonary Bypass Machine*, 25 TRANSPLANTATION PROC. 3093, 3093 (1993) (experimenting with *in situ* technique on hearts, lungs, pancreas, and kidneys in mongrel dogs).

19. See Kathleen S. Andersen & Daniel M. Fox, *The Impact of Routine Inquiry Laws on Organ Donation*, HEALTH AFF., Winter 1988, at 65, 66 ("Organ donation in this country relies on the concept of encouraged voluntarism. Either the donor must give consent or surviving persons close to the donor must authorize the donation in the absence of a prior decision; consent is not presumed").

required. Unfortunately, experience shows that this altruistic system fails to produce an adequate number of organs for donation.²⁰

The failure of the express donation policy is somewhat puzzling given survey results indicating the public's willingness to donate organs.²¹ But the high percentage of individuals who indicated they would be willing to donate their organs is deceptive; over sixty-five percent of them had not signed donor cards.²² Although estimates vary widely, approximately "20,000 people die annually under circumstances that would make them suitable organ donors."²³ However, each year only a small number of people actually become donors.²⁴

Obtaining consent from families to remove organs for transplantation presents the most formidable obstacle to increasing the organ supply. In a recent study of 6,942 potential brain-dead donors, consent for donation could be secured only fifty-seven percent of the time.²⁵ Compounding the problem is the attitude of medical professionals towards organ donation and their inability or unwillingness effectively to discuss the option of donation with the families of brain dead patients.²⁶ Even where a potential donor has signed a donor card, doctors are extremely reluctant to overrule a family's wish not to donate.²⁷

20. A. H. Barnett & David L. Kaserman, *The Shortage of Organs for Transplantation: Exploring the Alternatives*, 9 ISSUES L. & MED. 117, 121 (1993).

21. Arthur J. Matas et al., *A Proposal for Cadaver Organ Procurement: Routine Removal with Right of Informed Refusal*, 10 J. HEALTH POL., POL'Y & L. 231, 232 (1985). See Manninen & Evans, *supra*, note 12, at 3111-15 (suggesting that many people who favor organ donations are uncertain whether they would donate).

22. Matas et al., *supra* note 21, at 232.

23. Blumstein, *supra* note 15, at 12.

24. See generally Anaise & Rapaport, *supra* note 5, at 2153 (citing studies conducted by the centers for Disease Control and the Battelle-Seattle Research Center regarding obtaining consent for donation). See also Blumstein, *supra* note 15, at 12 (noting that the low retrieval rate translates into a small percentage of potentially transplantable organs being harvested, approximately 15%). Beverly Merz, *The Organ Procurement Problem: Many Causes, No Easy Solutions*, 254 JAMA 3285, 3285 (1985).

25. Anaise & Rapaport, *supra* note 5, at 2153.

26. Stuart J. Youngner et al., "Brain Death" and Organ Retrieval, 261 JAMA, 2205, 2210 (1989) (finding that physicians and nurses demonstrated confusion in defining death which may harm transplantation retrieval). The study explained that "technology is no longer the rate-limiting factor in human organ transplantation. Rather, it is the ability to obtain organs from suitable donors which depends largely on the attitude and commitment of health professionals." *Id.*

27. Matas et al., *supra* note 21, at 235 (describing reluctance of physicians to move

Yet the pool of available donors must be expanded. While brain-dead patients with beating hearts presently are preferred as kidney donors, even in the best of all possible worlds they will not be able to meet the demand.²⁸ Implementing a policy of *in situ* organ preservation for NHBCDs is the next logical step in combatting the organ shortage. Several physicians estimate that the use of NHBCDs could increase the supply of available organs by five to ten times the current number.²⁹

B. Model, Federal, and State Legislative Responses

1. Model Legislation

Model legislation attempted to address the discrepancy between the supply and the demand for transplantable organs. The National Conference of Commissioners on Uniform State Laws proposed the Uniform Anatomical Gift Act (UAGA), the best known law, in 1968.³⁰ Forty-one states passed the UAGA within an eighteen-month period, and ultimately, all fifty states plus the District of Columbia adopted some version of the UAGA.³¹ In 1987, the National Conference approved an amended version of the UAGA, but the 1987 version does not enjoy the wide acceptance of the 1968 version.³²

From the beginning, the UAGA focused on encouraging organ donation through the use of organ donor cards. Its efforts have been met with only limited success.³³ To simplify the donation process, both the 1968 and 1987 versions of the UAGA provide that an individual's decision to donate, as expressed by a donor card, does not require the consent of any other person after the donor's death.³⁴ In reality, however,

deceased for donation in the face of family opposition).

28. See Rigotti, *supra* note 2, at 2579.

29. Anaise & Rapaport, *supra* note 5, at 2153.

30. UNIFORM ANATOMICAL GIFT ACT, 8A U.L.A. 8 (1968). The original 1968 version of the act adopted by most states was extensively revised in 1987 and contains significant changes. UNIFORM ANATOMICAL GIFT ACT, 8A U.L.A. 29 (1987).

31. Daphne D. Sipes, *Legislative Update on the State Adoption of the 1987 Revision to the Uniform Anatomical Gift Act of 1968*, 4 B.Y.U. J. PUB. L. 395, 395 (1990) (illustrating the initial success of the UAGA).

32. *Id.* at 398-99 (noting that only eight states have enacted the 1987 version of the UAGA).

33. *Id.* at 396 (arguing that although organ donor cards are more prevalent, only 17% of potential donors have cards, and these cards often are not carried or discovered in time).

34. UNIFORM ANATOMICAL GIFT ACT § 2(e), 8A U.L.A. 100 (1968) (declaring "the rights

doctors will not proceed without the consent of the family. Critics of the UAGA contend that this weakness is a contributor to the UAGA's inability to increase the number of organs available for transplantation.³⁵

The UAGA allows the family to make an anatomical gift in the absence of an organ donor card or any known objection to donation on the part of the deceased.³⁶ In the absence of family members who could consent to donation, the 1987 UAGA created a separate class of individuals capable of authorizing organ donation: public officials. This provision requires, first, that reasonable efforts be made to locate the deceased's family. Failing that and barring any knowledge of an objection to donation, a public official with authority over the body may make an anatomical gift.³⁷ This provision is similar to legislation in some states that presumes consent to the removal of corneas.

The 1987 UAGA also incorporates recent efforts by state legislators to implement "routine inquiry" and "required request" laws with the addition of section 5.³⁸ Recently, some states have implemented laws which encourage donation by requiring a member of the hospital staff to request organ donation from the family of every potential donor. Section 5 of the 1987 UAGA follows the lead of these states by providing that on or before admission to a hospital, patients be asked whether

of the donee created by the gift are paramount to the rights of others"). UNIFORM ANATOMICAL GIFT ACT § 2(h), 8A U.L.A. 34 (1987) (stating "[a]n anatomical gift that is not revoked by the donor before death is irrevocable and does not require the consent or concurrence of any person after the donor's death").

35. Wayne L. Anderson & Janolyn D. Copeland, *Legal Intricacies of Organ Transplantation: Regulations and Liability*, 50 J. MO. B. 139, 141 (1994). Andersen & Fox, *supra* note 19, at 67 (noting that liability concerns and bad publicity keep physicians from fully using the Gift Act).

36. UNIFORM ANATOMICAL GIFT ACT § 3, 8A U.L.A. 40 (1987). In this section, the UAGA has a ranking of individuals within the family who may make this decision. No lower ranking priority member may override a higher priority member. Obviously, these provisions apply only if a family member is available. *Id.*

37. UNIFORM ANATOMICAL GIFT ACT § 4, 8A U.L.A. 43 (1987). This provision has not been widely accepted by the few states which have adopted the 1987 version of the UAGA. Normally, the public official with authority over the body would be the medical examiner. Donation will not be allowed unless it will not interfere with the autopsy or investigation and will occur only where there has been a request for an anatomical gift. *Id.* See also Sipes, *supra* note 31, at 410-12 (explaining that public officials may authorize donation under specific circumstances).

38. UNIFORM ANATOMICAL GIFT ACT § 5, 8A U.L.A. 47 (1987) (stating requirements for hospitals to determine patient donor status).

they are an organ donor.³⁹ In addition, the 1987 UAGA mandates that a hospital representative discuss the option of organ donation with the patient's family in the event of the patient's death where organs appear transplantable.⁴⁰

Both the 1968 and 1987 versions of the UAGA grant civil and criminal immunity from liability to any person who acts in "good faith" while performing an organ transplant.⁴¹ This is among the broadest legislative protections offered to health professionals. As yet, no health professional has been sued successfully in an organ transplantation case, but that fact has done little to alleviate the medical community's concern about legal liability.⁴²

2. Federal Legislation.

The National Organ Transplant Act of 1984 (NOTA) made trade in human organs unlawful.⁴³ The ban on the sale of organs has had a significant impact on the development of transplantation policy, since potential markets for organs or financial inducements for donations may not be explored. The NOTA also provided funding for the Organ Procurement and Transplantation Network (OPTN), a registry of patients in need of organs which matches donated organs with potential recipients.⁴⁴

Congress, in the Omnibus Budget Reconciliation Act of 1986, attempted to enhance donation rates with the Hospital Protocols for Organ Procurement and Standards for Organ Procurement Agencies. This federal law requires all Medicare

39. *Id.* § 5(a) (mandating questions to be asked of patients 18 years and older to determine if they are an organ or tissue donor).

40. *Id.* § 5(b) (stating hospitals must discuss organ donation with patients or families).

41. UNIFORM ANATOMICAL GIFT ACT § 7(c), 8A U.L.A. 124 (1968) (providing "[a] person who acts in good faith in accord with the terms of this Act or with the anatomical gift laws of another state . . . is not liable for damages in any civil action or subject to prosecution in any criminal proceeding for his act"); UNIFORM ANATOMICAL GIFT ACT § 11, 8A U.L.A. 59-60 (1987).

42. Anderson & Copeland, *supra* note 35, at 142 ("One reason why more organ donations and transplantations do not occur is that many hospitals, physicians, and health professionals are concerned about legal actions that may potentially be brought against them").

43. 42 U.S.C. § 274e(a) (1994) ("It shall be unlawful for any person to knowingly acquire, receive, or otherwise transfer any human organ for valuable consideration for use in human transplantation if the transfer affects interstate commerce").

44. Blumstein, *supra* note 15, at 12-13.

and Medicaid hospitals to establish a protocol whereby families are asked to donate organs. Hospitals that fail to comply with the law risk losing their federal funding.⁴⁵

3. State Legislation

As noted previously, most states have routine inquiry and required request⁴⁶ laws that encourage donation by requiring hospitals to request that the next-of-kin consider organ donation. Between 1985 and 1988, forty-four states and the District of Columbia passed routine inquiry laws in addition to the UAGA.⁴⁷

The success of routine inquiry and required request laws has been difficult to evaluate due to the lack of reporting requirements. However, one study limited to New York, Oregon, and California indicated that there was an increase in the number of referrals for organ donation in the first year after adoption, followed by a subsequent decline.⁴⁸ Based on an evaluation of these states, at least two researchers found that routine inquiry-required request laws alone will not significantly impact the supply of organs.⁴⁹

III. EXISTING POLICIES AND PROPOSALS

In the face of the acute shortage of organs, health professionals, ethicists, and legislators have addressed the problem of organ shortages through a variety of policy proposals, with limited success. This section evaluates three of the most prom

45. OMNIBUS BUDGET RECONCILIATION ACT OF 1986, 42 U.S.C. § 1320b-8(a)(1)(A)(i)-(iii) (1985).

46. The terms routine inquiry and require request have been used interchangeably by state legislatures, causing confusion but having the same practical effect. Andersen & Fox, *supra* note 19, at 69.

47. *Id.*

48. A.O. Gaber et al., *An Assessment of the Impact of Required Request Legislation on the Availability of Cadaveric Organs for Transplantation*, 22 *TRANSPLANTATION PROC.* 318, 319 (1990).

49. See Andersen & Fox, *supra* note 19, at 75-77 (finding that cumbersome reporting requirements result in implementation problems). See also Arthur L. Caplan, *Professional Arrogance and Public Misunderstanding*, *HASTINGS CENTER REP.*, Apr.-May 1988, at 34, 35 ("[T]he laws have had a small positive impact on the supply of organs available for transplantation"). *Id.*

ising proposals and the feasibility of their implementation in the United States.

A. Presumed Consent

One alternative to the current policy in the United States of express donation is a system of presumed consent, such as the one implemented in Belgium, France, and Austria.⁵⁰ Under presumed consent, generally speaking, doctors may remove organs so long as there is no known objection. This reduces the role of the family in the decision-making process.⁵¹ Proponents of presumed consent contend that such a policy would result in the availability of more organs for transplantation.⁵² Presumed consent, however, raises ethical questions by disregarding the individual's preferences in the absence of known objection.

Advocates of presumed consent argue that since the majority of the public favors organ donation, presumed consent would simplify the donation process.⁵³ However, a survey conducted by United Network for Organ Sharing indicated that presumed consent does not engender the support that organ donation in general does.⁵⁴ Nonetheless, presumed consent has met with some success in this country in the area of cornea donations. Currently, twenty-one states have laws authorizing the removal of corneas by medical examiners during autopsy where no objection to removal is known.⁵⁵ Most courts have

50. Council on Ethical and Jud. Aff., Am. Med. Ass'n, *Strategies for Cadaveric Organ Procurement*, 272 JAMA 809, 810 (1994).

51. *Id.* See also Barnett & Kaserman, *supra* note 20, at 121-22 (stating families can refuse organ donation simply by objecting). There is an even stronger form of presumed consent, called "conscription," that advocates the removal of organs despite known objections. See Joel Feinberg, *The Mistreatment of Dead Bodies*, HASTINGS CENTER REP., Feb. 1985, at 31, 32 (arguing that compulsory use of organs is not politically feasible because it ignores religious and personal objections and may violate the 1st Amendment).

52. Barnett & Kaserman, *supra* note 20, at 122; Council on Ethical and Jud. Aff., *supra* note 50, at 810 (reporting a 140% increase in the number of organs available for transplantation after Belgium adopted presumed consent).

53. See Council on Ethical and Jud. Aff., *supra* note 50, at 811 (suggesting presumed consent is more in line with what most decedents would want).

54. Barnett & Kaserman, *supra* note 20, at 122-23 (stating 52% of individuals questioned did not think physicians should be allowed to act based on presumed consent).

55. David Anaise et al., *An Approach to Organ Salvage From Non-Heart-Beating Cadaver Donors Under Existing Legal and Ethical Requirements for Transplantation*, 49 TRANSPLANTATION PROC., 290, 293 (1990).

upheld the constitutionality of such laws.⁵⁶ The fact that families have repeatedly challenged corneal transplant laws, albeit unsuccessfully, indicates that the backlash from a policy of general presumed consent could lead to a drastic drop in donations.⁵⁷

B. Compensation and Organ Markets

Compensation to the families of donors is another proposed solution to the organ crisis. A system of compensation for organs provides an added incentive for individuals or their families to donate. Proponents argue that such a system would result in a higher percentage of families consenting to organ donation.⁵⁸ Nonetheless, Congress, with passage of the National Organ Transplantation Act, has continued its policy of prohibiting compensation for organs.⁵⁹

A related alternative is a market system for transplantable organs. One variation on this theme proposes a "futures market" for organs which would entail purchasing an individual's organs prior to his death.⁶⁰ In such a market system, insurance companies would purchase and then resell rights to harvest organs. Another organ market program would offer a market-determined price from "organ procurement firms" which would remove organs from donors and sell them to transplant cen-

56. See *State v. Powell*, 497 So. 2d 1188, 1189 (Fla. 1986), *cert. denied*, 481 U.S. 1059 (1987) (upholding constitutionality of corneal removal by medical examiner); *Georgia Lions Eye Bank v. Lavant*, 335 S.E.2d 127, 128 (Ga. 1985), *cert. denied*, 475 U.S. 1084 (1986) (holding there is no constitutionally protected right in decedent's body); *Tillman v. Detroit Receiving Hosp.*, 360 N.W.2d 275, 277 (Mich. App. 1984) (holding constitutional privacy right does not apply).

57. See James F. Childress, *Ethical Criteria for Procuring and Distributing Organs for Transplantation*, 14 J. HEALTH POL., POL'Y & L. 87, 98 (1989) (discussing the dangers of backlash which could lead to a drastic drop in donations).

58. Barnett & Kaserman, *supra* note 20, at 124.

59. FOX & SWAZEY, *supra* note 3, at 65-66. In 1983, Dr. H. Barry Jacobs, the director of the International Kidney Exchange, Inc., proposed a program to buy and sell human kidneys on a national and international scale. His proposal included purchasing organs from financially strapped individuals in Third World countries or the United States and selling the organs to those who could afford to buy them. This event created the impetus for the National Organ Transplantation Act. *Id.*

60. Henry Hansmann, *The Economics and Ethics of Markets for Human Organs*, in ORGAN TRANSPLANTATION POLICY: ISSUES AND PROSPECTS, 57, 62 (James F. Blumstein & Frank A. Sloan eds., 1989). Barnett & Kaserman, *supra* note 20, at 125 (describing how some commentators have proposed a market where the right to harvest a person's organs upon death would be purchased from him while still in good health).

ters.⁶¹ Once the organs were purchased, they would be distributed as they are today, on the basis of need.⁶²

Undoubtedly, organ markets and compensation systems do have the potential for increasing the supply of organs.⁶³ But considerable opposition exists towards the market and compensation models. Opponents insist that a commercial market in organs and tissues is abhorrent because it treats human bodies as parts and commodities.⁶⁴ Of special concern is the fact that either system has the potential to coerce; the possibility of exploitation of donors cannot be overlooked.⁶⁵ Many ethicists argue that organ markets are diametrically opposed to the system of express donation to which the United States has adhered in the past.⁶⁶ One prominent ethicist urges that any form of compensation for organs would violate basic ethical principles, such as respect for persons and the dignity of individuals.⁶⁷

Whether a compensation system or market in human organs ever would become a socially acceptable means of meeting the organ shortage in the United States is an open question.

61. *Id.* at 63.

62. Barnett & Kaserman, *supra* note 20, at 126 (stating allocation is by the United Network for Organ Sharing guidelines). The market system can be distinguished from the compensation system in two ways. One, prices for organs in a market system would fluctuate based on the demand and supply; in a compensation-oriented scheme, the price would be fixed. Second, under the market system, the introduction of the procurement firm would greatly increase the incentives to seek permission for organ removal, thereby reducing the failure-to-ask problem. *Id.* at 127.

63. See generally David E. Chapman, Comment, *Retailing Human Organs Under the Uniform Commercial Code*, 16 J. MARSHALL L. REV. 393 (1983) (suggesting that the sale of organs under the Uniform Commercial Code would reduce or eliminate the organ shortage); Note, *The Sale of Human Body Parts*, 72 MICH. L. REV. 1182 (1974) (discussing the market system as an alternative for increasing the supply of organs).

64. See also E. W. Keyserlingk, *Human Dignity and Donor Altruism—Are They Compatible with Efficiency in Cadaveric Human Organ Procurement?*, 22 TRANSPLANTATION PROC., 1005, 1005 (1990) (“To market human organs for transplantation, or for any other purpose, would be to market pieces of self, pieces of person, to put a price on human life and health best thought of as priceless. It would be to exploit both the financially poor organ seller and the wealthier but desperate organ buyer”).

65. Childress, *supra* note 57, at 101. See also FOX & SWAZEY, *supra* note 3, at 68-69 (noting that if donors are poor they are especially vulnerable to exploitation, as illustrated by the trade in kidneys in India).

66. Feinberg, *supra* note 51, at 32 (arguing that the United States should retain an express donation system of organ transplantation “since a person’s body is essential to his identity while alive, it becomes a ‘sacred possession’ whose fate after his death he must actively control, and these facts are properly recognized only by a system that renders a body’s transfer to others into a freely given gift”).

67. James F. Childress, *Ethical Criteria for Procuring and Distributing Organs for Transplantation*, in ORGAN TRANSPLANTATION POLICY: ISSUES AND PROSPECTS, 87, 88 (James F. Blumstein & Frank A. Sloan eds., 1989).

The answer will be determined by societal and political values that emerge as the shortage of organs becomes more acute. At this time, it does not appear to be a viable alternative.

IV. NEW ALTERNATIVE: THE NON-HEART-BEATING CADAVER DONOR

With the organ shortage becoming increasingly acute, the time has come to consider an alternative source of transplantable organs. Despite intensive legislative and public education efforts, the number of available donors has not increased substantially in the past few years.⁶⁸ As an inevitable consequence, the average time for patients waiting for kidney transplants continues to increase.⁶⁹ The shortage of transplantable organs persists despite data indicating a large number of potential donors exists.⁷⁰

This Note proposes that society turn to a neglected source of salvageable organs: the non-heart-beating cadaver donors (NHBCDs). Up to twenty-nine percent of potential donors die within six hours of hospital admission, and another thirty percent die within twenty-four hours; these patients are never adequately stabilized on life support, which renders them unavailable as donors under brain death criteria.⁷¹ At least one commentator estimates that utilizing these patients as NHBCDs could increase the number of available organs eight to ten times.⁷² Unfortunately, most transplant surgeons believe donors must be brain dead in order to constitute a good organ source.⁷³

68. Anaise & Rapaport, *supra* note 5, at 2153 (stating despite massive efforts and expenditures, the number of kidneys available for transplantation did not increase substantially between 1987 and 1991).

69. *Id.* at 5-7.

70. *See id.* (according to earlier studies the number of potential donors was 27,840, while recent studies show only 6942 potential donors). *See also* Youngner & Arnold, *supra* note 2, at 2769 (claiming since 1991 estimates of the potential pool of HBCDs have been revised downward from the range of 20,000 to 27,000 to roughly 10,000 to 12,000).

71. Anaise & Rapaport, *supra* note 5, at 2153.

72. Anaise et al., *supra* note 55, at 293 (arguing that "implementation of an effective method to protect organs in potential NHBCD from warm ischemia might yield an 8-to-10-fold increase in the number of organs available for renal transplantation").

73. E. Morpurgo et al., *supra* note 2, at 1509 (noting that "[a]t present, brain-dead, heart-beating donors are the preferred source of kidneys because donor nephrectomy can be performed with minimal ischemic damage"). Warm ischemic damage occurs when the organ is not

Early studies of *in situ* organ preservation exposed the difficulties inherent in providing organs suitable for transplantation. Due to a lack of oxygen, organs retrieved from individuals who have suffered from cardiac arrest often are damaged at the cellular level and are unsuitable for transplantation. In countries such as Japan where acceptance of the concept of brain death has been much slower than in the United States, however, NHBCDs represent the only source of organs. To combat the inevitable decay of organs, these countries focus on refining their *in situ* organ preservation techniques. Recent studies show no difference in the long-term survival rate of NHBCD kidneys versus those from brain-dead donors.⁷⁴ Doubt no longer exists towards the potential viability of the procedure, and such concerns cannot constitute a legitimate reason for restricting its implementation.

Institution of *in situ* organ preservation in the United States requires careful analysis of ethical and legal issues. The most formidable obstacle is the lack of consent from the donor or the donor's family. Legal and ethical considerations counsel against proceeding without an individual's informed consent.⁷⁵ Historically, informed consent could be waived in only two situations: 1) when the patient was unconscious or otherwise

continuously oxygenated and adequately maintained. Brain dead donors remain on life support until a few moments before harvesting of the organs, providing high-quality organs. Modern methods of *in situ* preservation have greatly reduced ischemic damage. ROBERT M. ARNOLD ET AL., PROCURING ORGANS FOR TRANSPLANT: THE DEBATE OVER NON-HEART-BEATING CADAVER PROTOCOLS 1-3 (1995).

74. Anaise & Rapaport, *supra* note 5, at 2154 (asserting studies have found long-term survival rate of NHBCD kidneys did not differ significantly from those retrieved from brain-dead donors). See also N. Matsuno et al., *Effectiveness of Machine Perfusion Preservation as a Viability Determination Method for Kidneys Procured from Non-Heart-Beating Donors*, 26 TRANSPLANTATION PROC. 2421, 2421-22 (1994) (describing high success rates in early graft function for kidneys taken from particular NHBD technique); M. J. Yland et al., *New Pulsatile Perfusion Method for Non-Heart-Beating Cadaveric Donor Organs: A Preliminary Report*, 25 TRANSPLANTATION PROC. 3087, 3088-89 (1993) (discussing a new preservation method called the homeostatic perfusion apparatus); R. Valero et al., *Organ Procurement From Non-Heart-Beating Donors by Total Body Cooling*, 25 TRANSPLANTATION PROC. 3091, 3091-92 (1993) (describing high success rates in kidneys harvested from NHBDs using the portable total body cooling technique); N. Matsuno et al., *Use of In Situ Cooling and Machine Perfusion Preservation for Non-Heart-Beating Donors*, 25 TRANSPLANTATION PROC. 3095, 3095-96 (1993) (describing increased success rates of kidneys transplanted from NHBDs when *in situ* cooling is used).

75. James P. Orłowski et al., *The Ethics of Using Newly Dead Patients for Teaching and Practicing Intubation Techniques*, 319 NEW ENG. J. MED. 440 (1988) (discussing the ethical problems inherent in teaching and practicing intubation on recently deceased patients without the consent of the family).

unable to consent and the harm from not treating was thought to outweigh the harm from treating; or 2) when disclosure of risks would be detrimental to the patient due to possible psychological damage to the patient.⁷⁶ Neither exception is meaningful to the current debate surrounding *in situ* preservation. The central issue *in situ* organ donation is the donor's prior expressed consent or nonconsent and the donor family's preferences.

Timing of the procedure requires consideration. When should resuscitation efforts cease and organ preservation begin? In other words, when does a "patient" become a "donor?" How can we be certain the donor really is dead? While cessation of circulatory and respiratory functions is one of the traditional definitions of death, today's technology routinely brings people back from "death" in this sense. Organ procurement facilities are especially vulnerable to the accusation that the need for organs will compromise care of the patient. In response to these concerns, many hospitals implemented policies mandating separate medical teams; one team of doctors handles the patient's care until death, and a second team of doctors harvests the organs after the patient's death. Unfortunately, this distinction would be difficult to maintain in the emergency room setting where a substantial number of *in situ* procedures would occur, due to the inherent personnel limitations in that setting.

Another question is whether the invasion of the corpse the procedure requires is inherently disrespectful of the deceased and thus ethically unacceptable. There is also the issue of whether the need for transplantable organs gives adequate justification for proceeding without knowledge of the individual's or family's wishes or possible religious objections. In light of the obvious need for public support of organ donation, these issues must be addressed before a policy of routine *in situ*

76. *Canterbury v. Spence*, 464 F.2d 772, 783-89 (D.C. Cir. 1972) (discussing two exceptions to the general rule of disclosure). The concept of informed consent has often been expressed as the idea that "[e]very human being of adult years and sound mind has a right to determine what shall be done with his own body . . ." *Schloendorff v. Soc'y of N.Y. Hosp.*, 105 N.E. 92, 93 (N.Y. 1914), *overruled in part by Bing v. Thunig*, 143 N.E.2d 3 (N.Y. 1957). *See also* W. PAGE KEETON ET AL., *PROSSER AND KEETON ON THE LAW OF TORTS* § 18 at 114 (5th. ed. 1984) (discussing four circumstances in which consent is ineffective).

preservation can be implemented.

Ethical issues aside, hospitals and doctors must consider legal liability. For example, it is unclear whether insertion of the necessary catheters into the NHBCD would rise to the level of "mistreatment" of a corpse prohibited by state law.⁷⁷ While the UAGA provides immunity for actions undertaken in "good faith" during the organ procurement process, it is unclear whether that provision would extend to *in situ* organ preservation. Hospitals and doctors, sensing their vulnerability, understandably may hesitate to employ the procedure without adequate assurance of its legality.

A. Ethical Issues

1. Consent

One of the central issues for *in situ* organ preservation is the need and ability to obtain consent from the deceased or the next of kin.⁷⁸ In an ideal world, the consent of the individual or the family would always be obtained before instituting any organ preservation procedure out of respect for their preferences. But timely consent often is impossible.

In evaluating consent issues, the individual's claim to consent is stronger than the family's. If the patient made his or her wishes clear, for example by advance directive, those wishes must be respected.⁷⁹ If no such indicator exists, then the deceased patient still must receive respect. This respect is limited, however, to avoiding disfigurement or mutilation of the body. While it is conceivable that family members would view the *in situ* procedure as "offensive and outrageous," i.e., "mistreatment" of the corpse, the need for consent must be weighed against the need for the organs, or at least the need to preserve the option to donate.⁸⁰

77. See *infra*, part IV.B (discussing mistreatment of corpses).

78. Yland et al., *supra* note 74, at 3087 (commenting that access to NHBCD has been restricted by the inability to obtain timely consent from the family). See also Youngner & Arnold, *supra* note 2, at 2770 (explaining practical and ethical concerns with *in situ* preservation).

79. Orlowski et al., *supra* note 75, at 440 (discussing the legal obligation to abide by patients' wishes).

80. *Id.* at 441 (discussing the adoption of a program that permits an exception to informed consent).

In situ preservation is a method of enabling a family's decision to donate in the absence of a clear directive from the donor. This insures respect for the family in the organ donation process. Studies show that many families view organ donation as a form of charity, and even derive comfort from the thought that part of their loved one lives on.⁸¹ At the same time, research indicates that pressured discussions with the family regarding organ donation leave families with negative feelings about donation.⁸²

If the *in situ* procedure is done with due respect and with minimal invasion of the corpse, it is unlikely to be viewed as mistreatment of the corpse. The body will still be suitable for viewing, and the option of donation will be preserved. Most importantly, the procedure buys an additional few hours for the family to consider donation in an unpressured setting. Thus, the lack of initial consent should not bar the *in situ* procedure in light of its benefits and the fact that it preserves the option of donation for the family.

2. Definition of Death

According to the Uniform Determination of Death Act, "[a]n individual who has sustained either (1) irreversible cessation of circulatory or respiratory functions, or (2) irreversible cessation of all functions of the entire brain, including the brain stem, is dead. A determination of death must be made in accordance with accepted medical standards."⁸³ States have implemented laws recognizing this dual definition of death.⁸⁴ While the precise definition of "brain death" has been a source

81. M.R. Bartucci & M. C. Seller, *Donor Family Responses to Kidney Recipient Letters of Thanks*, 18 *TRANSPLANTATION PROC.* 401, 401 (1986) (noting that studies show families often find comfort through cadaver organ donation).

82. *See id.* at 403 (discussing these families' negative feelings concerning organ donation). *See also* Matas et al., *supra* note 21, at 233 (discussing family member's explanation of why physician's questions regarding organ donation from husband's body was a negative experience).

83. UNIFORM DETERMINATION OF DEATH ACT, *reprinted in* PRESIDENT'S COMM'N FOR THE STUDY OF ETHICAL PROBS. IN MED. AND BIOMEDICAL AND BEHAV. RES., *DEFINING DEATH: A REPORT ON THE MEDICAL, LEGAL AND ETHICAL ISSUES IN THE DETERMINATION OF DEATH* app. at 119 (1981) [hereinafter PRESIDENT'S COMM'N].

84. David R. Smith, *Legal Recognition of Neocortical Death*, 71 *CORNELL L. REV.* 850, 850-52 (1986) (stating in 1986 most states used a cardiopulmonary test with a whole brain death standard).

of controversy in the medical field, the complete cessation of all functions of the brain is accepted widely.⁸⁵

What is not clear is where to draw the line conceptually in distinguishing the precise moment when an individual shifts from patient to donor. How long after cessation of the heart-beat and respiration should physicians wait before declaring an individual dead? Commentators express the fear that the use of NHBCDs will compromise the care of potential donors while they are living or during resuscitation efforts. That decisions concerning the withdrawal of life support or cessation of resuscitation efforts may be affected by the physician's desire to render the organs more viable for transplantation is of great concern.⁸⁶ More specifically, those interested in obtaining organs for transplantation may be tempted to use "direct means to hasten death, to try to control the time of death, to use medications and other measures to ensure organ viability, and so forth"⁸⁷

While these concerns apply to brain dead patients on life support, they have relevance for *in situ* organ preservation as well. Due to time constraints, preservation must occur within minutes of death.⁸⁸ Without a clear protocol for the length and intensity of resuscitation efforts for trauma victims, the perception may be that potential donors are treated only as a means to the end of organ donation. To prevent this perception, the pronouncement of death must meet specific criteria before the start of organ procurement procedures. First, there must be cessation of the cardiopulmonary system; that is, both the heartbeat and respirations must cease. Second, and most important, cessation must be irreversible.

The concept of irreversibility emerges as perhaps the most

85. *Id.* (stating majority of states have supplemented the cardiopulmonary test of cessation of heart and lung functions with a whole brain death standard).

86. See Renée C. Fox, "An Ignoble Form of Cannibalism": *Reflections on the Pittsburgh Protocol for Procuring Organs from Non-Heart-Beating Cadavers*, 3 KENNEDY INST. ETHICS J. 231 (1993) (describing the Pittsburgh Protocol as "medically rationalized cannibalism").

87. James F. Childress, *Non-Heart-Beating Donors of Organs: Are the Distinctions Between Direct and Indirect Effects & Between Killing and Letting Die Relevant and Helpful?*, 3 KENNEDY INST. ETHICS J. 203, 210 (1993) (discussing patients who have chosen "comfort measures only").

88. Anaise et al., *supra* note 55, at 293 (explaining that femoral cannulation of a potential donor must be done immediately after death).

difficult problem when considering the use of NHBCDs as organ sources. Thus the crucial question becomes how long a resuscitation effort is enough? In one program, at the University of Pittsburgh, physicians wait a mere two minutes after the onset of cardiac arrest before proceeding to harvest the donor's organs.⁸⁹ While the Pittsburgh Protocol, as this procedure is known, deals exclusively with terminal patients whose families have consented to organ donation, at least one ethicist has questioned the sincerity of the protocol's commitment to the irreversibility of cardiac function before harvesting.⁹⁰ Clearly, any perception by the public that doctors "kill" patients in order to retrieve their organs would have a devastating impact on the future of organ transplantation.

The President's Commission Advisory Guidelines provide some assistance by defining irreversibility as the absence of function for a finite period.⁹¹ Commentators argue that an acceptable waiting period varies as much as from seven to thirty minutes.⁹² The Advisory Guidelines caution that where death is sudden or unexpected, the examination should be conducted over a longer period, be more extensive, and the resuscitation efforts should be continued during the examination.⁹³ Since *in situ* preservation most likely will apply to trauma victims who arrest in or shortly before arriving at the emergency room, doc-

89. *University of Pittsburgh Medical Center Policy and Procedure Manual*, reprinted in *PROCURING ORGANS FOR TRANSPLANT: THE DEBATE OVER NON-HEART-BEATING CADAVER PROTOCOLS* app. at 235, 240 (Robert M. Arnold et al. eds., 1995) (presenting the full text of the Pittsburgh Protocol). The Pittsburgh Protocol is a unique program at the University of Pittsburgh whereby terminally ill patients may choose to become donors after their death. The patient is weaned off the respirator in an operating room, given pain medication for comfort only, and allowed to die. Approximately two minutes after cessation of a regular heart beat, the patient is declared dead and the organs removed. *Id.* Patients may not actually be "dead" since theoretically they might still be capable of resuscitation. This scenario is readily distinguished from *in situ* procedures because informed consent has already been obtained prior to weaning the patient off the respirator.

90. Fox, *supra* note 86, at 233 (asking whether "shortening the timing of electrocardiographic criteria for certifying death to two minutes [is] a technologically sophisticated way of disguising the fact that organ procurement does in fact begin before the patient/donor is unambiguously and irreversibly dead?").

91. PRESIDENT'S COMM'N, *supra* note 83, at 162.

92. See Fox, *supra* note 86, at 232-33 (implying that six to seven minutes may be an acceptable amount of time to wait to diagnose death). See also M. Gómez et al., *Cardiopulmonary Bypass and Profound Hypothermia as a Means for Obtaining Kidney Grafts From Irreversible Cardiac Arrest Donors: Cooling Technique*, 25 *TRANSPLANTATION PROC.* 1501, 1501 (1993) (advocating at least 30 minutes of sustained resuscitation before declaring death).

93. PRESIDENT'S COMM'N, *supra* note 83, at 162.

tors must make every effort to assure that they cannot restore circulatory and respiratory function.

The proposed protocol for the institution of *in situ* organ preservation contained in the conclusion of this Note recommends ten to fifteen minutes as an acceptable period of intensive resuscitation effort for trauma victims. The use of such a parameter will assure that physicians insert catheters into the deceased only after irreversible cessation of cardiac function has been definitively established.

3. Respect for the Dead

Is *in situ* organ preservation ethically and morally justifiable? Does it treat human beings only as a means and not as an end? Such inquiries express our traditional beliefs concerning the sacredness of the recently deceased.⁹⁴ Ethical debates regarding the treatment of corpses have raged since man discovered how useful the study of human bodies could be.⁹⁵ Each culture maintains its own views of what constitutes the proper treatment of dead bodies, thus there are different religious practices, rituals, and superstitions. Historically, clashes have occurred between the goals of medicine and society's sensibilities regarding permissible acts. One early example of this tension was the grave robbing by medical students in the 18th and 19th centuries to obtain cadavers to study. The outraged public rioted in protest.⁹⁶ These feelings persist in modern times. For example, autopsies may be worthwhile, but often are traumatic for families because of their desire not to have the bodies of their loved ones mutilated.⁹⁷

Many of these same concerns arise in the arena of organ transplantation. Here, donors often are young persons whose deaths are an undeniable tragedy. In order for organ donation, or specifically *in situ* preservation, to be successful, one cannot

94. A. Lynch, *Respect for the Dead Human Body: A Question of Body, Mind, Spirit, Psyche*, 22 *TRANSPLANTATION PROC.* 1016, 1016 (1990) (discussing examples of respect for the dead body). See also Feinberg, *supra* note 51, at 31-37 (discussing philosophical aspects of harvesting organs from dead bodies).

95. Feinberg, *supra* note 51, at 31.

96. Stuart J. Youngner, *Organ Retrieval: Can We Ignore the Dark Side?*, 22 *TRANSPLANTATION PROC.* 1014, 1014 (1990).

97. *Id.*

ignore the public's sensibilities to the detriment of organ transplantation.⁹⁸ One ethicist argues that aggressive organ donation programs may even make hospitals into an institutional symbol for a world that devours its patients.⁹⁹ In fact, a mixture of functions already exists within most hospitals. For example, some patients enter the hospital for treatment while others come to the hospital to make their passing more peaceful and less painful.

The symbolism of the corpse is very powerful, for the corpse is an embodiment of the living person it once was.¹⁰⁰ But symbolism alone is not sufficient to deny medical access to corpses for research.¹⁰¹ This is not to say that organ donation or *in situ* cooling is always appropriate. As Justice Cardozo noted, "sentiments and usages devoutly held as sacred, may not be flouted for caprice."¹⁰² To ignore deeply felt religious beliefs which prohibit organ transplantation might well violate the freedom of religion guaranteed by the Constitution.¹⁰³ Certain religious groups object to organ donation because they believe in personal immortality. Other religions encourage organ donation as an act of charity to the less fortunate; the practice is not seen as disrespectful so long as the procedure is conducted with reverence.¹⁰⁴

Considerable philosophical discussion exists regarding the obligation to provide for posthumous respect in the context of organ donation. One basis for such an obligation is that "respect for the cadaver is offered because that is what one wishes for oneself."¹⁰⁵ One ethicist explained that "[s]ome recognition of the human body . . . is required as marking respect

98. *Id.* at 1015 (noting concerns of using cadavers in medical experiments or for organ retrieval). *See also* Feinberg, *supra* note 51, at 31 (describing a congressman's outrage at discovering that the Department of Transportation was using cadavers in testing designs for automobile air bags).

99. Feinberg, *supra* note 51, at 36.

100. Lynch, *supra* note 94, at 1017 (discussing the need for dignity and respect of the newly dead).

101. *See* Feinberg, *supra* note 51, at 32 (discussing the distinction between actual symbols observed and the interests they represent).

102. *Yome v. Gorman*, 152 N.E. 126, 128-29 (N.Y. 1926).

103. Feinberg, *supra* note 51, at 32.

104. Lynch, *supra* note 94, at 1017 (explaining that many Christian denominations encourage the use of cadavers for organ retrieval).

105. *Id.*

during the organ retrieval process."¹⁰⁶ One way proposed to express reverence towards the newly deceased is the observation of a moment of silence, either pre- or post-organ retrieval.¹⁰⁷ Such rituals not only convey a sense of respect for the deceased and the deceased's family, but assist the transplantation teams with the more dehumanizing aspects of their task.

Of equal concern is the feeling that the use of the recently deceased for the benefit of others cheapens life and numbs our sense of respect for the dead.¹⁰⁸ Indeed, the Kantian injunction that persons should always be treated as autonomous ends and not merely as means to the ends of others appears difficult to reconcile with organ transplantation.¹⁰⁹ For organ transplantation to be morally justifiable, it must provide organs for those who need them while respecting the human dignity of donors. This is possible only in a conceptual framework that considers organ donation to be an expression of the beauty of life, a gift based on a respect for human dignity. Medical procedures performed on the recently deceased need not be inherently disrespectful. The use of a moment of silence and genuine compassion for the deceased and the family will assure that an appropriate sense of dignity is maintained.

B. Legal Liability

The family's legal rights to the protection and possession of the corpse of a loved one have evolved over time. English common law held that the family of the deceased had no property rights in the body, and therefore the corpse could not be

106. *Id.*

107. Stuart Youngner et al., *Psychosocial and Ethical Implications of Organ Retrieval*, 313 NEW ENG. J. MED. 321, 323 (1985) (discussing rituals appropriate to reduce perplexity and minimize problems associated with organ retrieval). *See also* M. J. Lynch, *Duty for Respecting the Dead Body*, 22 TRANSPLANTATION PROC. 1021, 1022 (1990) (quoting the following prayer: "We thank you for your assistance today. We are grateful to the patient and to the donor family who have enabled us to be here today. We believe others will be helped by this donation. (*Pause for silence.*) We can begin now").

108. *See* Feinberg, *supra* note 51, at 35-36 (acknowledging possible negative effects of routine harvesting of organs, but arguing that such concerns can be marginalized while reaping the benefits of organ harvesting).

109. Keyserlingk, *supra* note 64, at 1005 ("[A] morally justifiable policy will be one which is likely to provide the largest number of needed and available organs for potential recipients, without violating the human dignity of potential donors").

disposed of by will.¹¹⁰ Historically, the primary reason for this rule was that all matters concerning dead bodies were under the jurisdiction of the ecclesiastical courts.¹¹¹ Today, modern courts more willingly recognize the right of possession of a corpse by the next-of-kin. However, the family still has no absolute property right to the body of their deceased relative.¹¹² Rather, families are given a limited "quasi-property" right to the body of the deceased.¹¹³ This right usually extends only to possession for burial.¹¹⁴ Furthermore, families have no constitutionally protected right of privacy to the decedent's body.¹¹⁵

Nevertheless, many state laws do prohibit doctors or other people from performing procedures on dead bodies without the express consent of the family or authority from the state.¹¹⁶ For example, an unauthorized autopsy can give rise to liability.¹¹⁷ Some courts, however, have found that certain routine, non-deforming medical procedures do not constitute mutilation, and thus are not actionable.¹¹⁸

In the leading case of *State v. Powell*,¹¹⁹ the Florida Supreme Court rejected the argument that the Constitution pro-

110. *Williams v. Williams*, 20 Ch. D. 659, 665 (1882) (stating that because no property right exists in a corpse, it cannot be disposed of through a will).

111. Erik S. Jaffe, Note: *She's Got Bette Davis's Eyes*: Assessing the Nonconsensual Removal of Cadaver Organs Under the Takings and Due Process Clauses, 90 COLUM. L. REV. 528, 550 n.106 (1990).

112. *State v. Powell*, 497 So. 2d 1188, 1192 (Fla. 1986), cert. denied, 481 U.S. 1059 (1987) (holding no property rights exist in decedent's body).

113. *Georgia Lions Eye Bank v. Lavant*, 335 S.E.2d 127, 128 (Ga. 1985), cert. denied, 475 U.S. 1084 (1986) (recognizing at common law the "quasi-property" interests of surviving relatives).

114. *Powell*, 497 So. 2d at 1192.

115. *Georgia Lions Eye Bank*, 335 S.E. 2d at 128.

116. See OHIO REV. CODE ANN. § 2927.01 (Baldwin 1994) (prohibiting actions which would outrage reasonable family or community sensibilities); MASS. GEN. LAWS ANN. ch. 272, § 71 (West 1990); N.Y. PUB. HEALTH LAW § 4218 (McKinney 1985).

117. *Torres v. State*, 228 N.Y.S.2d 1005, 1008 (1962) (holding that State was liable for family's mental suffering and expenses resulting from unauthorized autopsy).

118. *Parker v. Quinn-McGowen Co.*, 138 S.E.2d 214, 216 (N.C. 1964) (holding that unauthorized embalming of a body is not considered mutilation); *People v. Bullington*, 80 P.2d 1030, 1032 (Cal. 1938) (finding that removal of two gold crowns from teeth of the dead body was not mutilation of the corpse). See also *Anaise et al.*, supra note 55, at 293 (noting these procedures include small groin incisions to determine the extent of an abscess and the unauthorized embalming of a body).

119. *Powell*, 497 So. 2d at 1193 (upholding a state statute permitting medical examiners to remove corneas for transplantation during autopsies provided there is no known objection by the family).

fects the right of the next-of-kin to the remains of a deceased family member. The *Powell* court addressed a state statute which permitted removal of corneas without the consent of the family or the donor. According to the court, corneal removal is not disfiguring because it requires an "infinitesimally small intrusion which does not affect the decedent's appearance."¹²⁰ In addition, the court stressed that under Florida state law, there is no familial "property" right per se to the decedent's body; at most, the family has a "quasi-property" right — the right to possession of the body for burial.¹²¹ The court also rejected the argument that the family's privacy had been violated by the coroner's failure to obtain their consent. Instead, the court held that neither federal nor state privacy laws could protect an individual from the government's intrusion, especially when the public's health is at stake.¹²² In support of its decision, the court held that the statute was rationally related to the state's objective of promoting corneal transplantation for the blind.¹²³

Several other courts use similar reasoning to conclude that the next-of-kin maintains only a limited property right in the body of a loved one.¹²⁴ The courts in *Georgia Lions Eye Bank* and *Tillman* both held that regardless of the "quasi-property" right held by the respective families, their interests in the body of the deceased failed to rise to the level of a constitutionally protected liberty or property interest and failed to raise due process concerns.

In *Brotherton v. Cleveland*, however, the Sixth Circuit Court of Appeals determined that harvesting corneas during an autopsy pursuant to an Ohio statute constituted a deprivation of a property right which required due process protection.¹²⁵ The

120. *Id.* at 1191 (capping decedent's eyes maintains normal appearance of body).

121. *Id.* at 1192 ("[T]he next-of-kin's right in a decedent's remains is based upon 'the personal right of the decedent's next-of-kin to bury the body rather than any property right in the body itself.'" (quoting *Jackson v. Rupp*, 228 So. 2d 916, 918 (Fla. Dist. Ct. App. 1969)).

122. *Id.* at 1193.

123. *Id.* at 1193-94 (holding statute encourages state's interest in restoring sight to blind).

124. *Georgia Lions Eye Bank v. Lavant*, 335 S.E.2d 127, 128 (Ga. 1985), *cert. denied*, 475 U.S. 1084 (1986) (holding that removal of corneal tissue pursuant to state statute did not violate due process); *Tillman v. Detroit Receiving Hosp.*, 360 N.W.2d 275, 277 (Mich. App. 1984) (holding that privacy rights encompassing the right to make decisions concerning the integrity of one's body ends with death).

125. *Brotherton v. Cleveland*, 923 F.2d 477, 482 (6th Cir. 1991) (recognizing property rights

circuit court reversed the district court's holding that neither statutory nor case law of Ohio recognized a property right in a relative's remains. Instead, the circuit court determined that the recognition of a property right under state law was unnecessary because federal law governs whether an interest rises to a "legitimate claim of entitlement."¹²⁶

In *Brotherton*, the wife of the deceased refused the hospital's request to make an anatomical gift. Her refusal was duly noted in the hospital's Report of Death. During the subsequent autopsy, the coroner authorized the removal of the deceased's corneas. Ohio law permits the removal of corneas by the coroner where the coroner has no knowledge of a prior objection of the decedent or the decedent's spouse or next of kin.¹²⁷ At the time, the coroner's office did not customarily request the hospital's documents prior to removing the corneas.¹²⁸

Brotherton's wife brought a claim under section 1983 of the Civil Rights Act¹²⁹ for deprivation of a property right without due process. To assert a claim under section 1983, a plaintiff must show: 1) the alleged deprivation was committed by a person acting under color of state law; and 2) the deprivation was of a right, privilege, or immunity guaranteed by the Constitution. The central issue in *Brotherton* was whether the wife's interest in her husband's body gave rise to a constitutionally protected property right.

The reasoning of the majority in *Brotherton* was unusual because it chose to disregard the relevant Ohio law as the source of property law.¹³⁰ Instead, the *Brotherton* court ex-

to decedent's corneas).

126. *Id.* at 481-82 (holding federal rather than state law determines whether interest rises to level protected by due process clause).

127. OHIO REV. CODE ANN. § 2108.60 (Baldwin 1994).

128. *Brotherton*, 923 F.2d at 478.

129. Section 1983 provides:

Every person who, under color of any statute, ordinance, regulation, custom, or usage, of any State or Territory or the District of Columbia, subjects, or causes to be subjected, any citizen of the United States or other person within the jurisdiction thereof to the deprivation of any rights, privileges, or immunities secured by the Constitution and the laws, shall be liable to the party injured in an action at law, suit in equity, or other proper proceeding for redress.

42 U.S.C. § 1983 (1994).

130. *Brotherton*, 923 F.2d at 481-82 (holding federal rather than state law governs whether

trapolated from the rights vested in survivors to consent to the donation of a relative's organs under the Ohio UAGA to an aggregate claim of entitlement.¹³¹ Even more puzzling, the majority in *Brotherton* relied on a section of the Ohio code which expressly limits the rights of survivors in making anatomical gifts.¹³² In contrast, other federal appeals courts addressing section 1983 claims based on property rights in cadavers have relied exclusively on state law as a source of these rights.¹³³

The Sixth Circuit's ruling in *Brotherton* encourages recognition of property rights in dead bodies and, possibly, commercialization of those rights. This obviously creates a tension with current federal policies favoring donation and banning the sale of human organs.¹³⁴ Thus far, the courts have attempted to steer away from encouraging the commercialization of body parts.¹³⁵ For this reason, the Sixth Circuit's ruling is not likely to alter the prevailing view which limits the recognition of property rights in cadavers.

While *in situ* organ preservation does not involve the removal or destruction of any body parts, concern remains that the initiation of the procedure without the family's consent would infringe upon the patient's or the family's liberty or property interests. The risk of legal liability from preservation procedures must be evaluated from both the donor's and the family's perspectives. An individual's expressed intent not to become a donor always should be honored, despite the fact that

interest rises to level necessary for due process protection). See Michael H. Scarmon, Note, *Brotherton v. Cleveland: Property Rights in the Human Body—Are The Goods Oft Interred With Their Bones?*, 37 S.D. L. REV. 429, 433, 466 (1992).

131. Scarmon, *supra* note 130, at 446.

132. *Id.* at 447.

133. See *Fuller v. Marx*, 724 F.2d 717, 719 (8th Cir. 1984) (holding the relatives of a deceased prisoner who sued for negligent destruction of organs during an autopsy were not deprived of due process); *Arnaud v. Odom*, 870 F.2d 304, 307-08 (5th Cir. 1989), *cert. denied*, 493 U.S. 855 (1989) (holding state remedies for tort claims satisfy deprivations of property or liberty interests); *Lawyer v. Kernodle*, 721 F.2d 632, 635 (8th Cir. 1983) (finding defendant acting under color of state law).

134. Scarmon, *supra* note 130, at 447 (discussing the ramifications of establishing broadened property rights in dead bodies).

135. See generally *Moore v. Regents of Univ. of Cal.*, 249 Cal. Rptr. 494, 503-09 (Cal. Ct. App. 1988), *modified*, 793 P.2d 479 (Cal. 1990), *cert. denied*, 499 U.S. 936 (1991) (finding no violation of the patient's property rights by defendant's using patient's cells for profit without knowledge or permission).

one no longer has the right (or ability) to consent to or to refuse medical treatment after death.¹³⁶ The courts also have held that patients no longer have a constitutional right to privacy following death.¹³⁷

Legally, the recently deceased potential donor who has expressed no preference concerning organ donation has only the right to be free of mutilation and mistreatment. The donor's consent to organ donation is not at issue if no prior preference has been expressed. However, one still must evaluate whether the use of *in situ* procedures could run afoul of state statutes forbidding mistreatment of corpses.¹³⁸ The medical community generally regards *in situ* preservation as semi-invasive, and thus does not render the body unsuitable for viewing. Therefore, it is unlikely that *in situ* preservation will be viewed as mistreatment of the corpse.¹³⁹ As one commentator has noted, the best legal protection against liability for non-mutilating procedures performed upon the recently deceased would be legislation permitting an exception to informed consent.¹⁴⁰ Until such legislation is passed, however, it is impossible to say with certainty that the *in situ* procedure is free from the risk of liability under state law.

In addition to state law, other potential sources of liability exist. For example, the UAGA, in conformity with the common law, expressly grants the right to the next-of-kin to control disposal of the body.¹⁴¹ Interference with this right could give

136. Orlowski et al., *supra* note 75, at 440 ("If the patient has indicated by will, durable power of attorney, or other advance directive what he or she wishes to be done with the body or bodily parts after death, then these expressed interests must be respected and followed unless circumstances clearly override such an interest").

137. *Tillman v. Detroit Receiving Hosp.*, 360 N.W.2d 275, 277 (Mich. App. 1984) ("The privacy right which encompasses the right to make decisions concerning the integrity of one's body is a personal one. It ends with the death of the person to whom it is of value. It may not be claimed by his estate or his next-of-kin").

138. CAL. HEALTH & SAFETY CODE § 7052 (West Supp. 1996); MASS. GEN. LAWS ANN. ch. 272, § 71 (West 1990); N.Y. PUB. HEALTH LAW § 4218 (McKinney 1985); OHIO REV. CODE ANN. § 2927.01 (Anderson 1993).

139. *See State v. Powell*, 497 So. 2d 1188, 1191 (Fla. 1986), *cert. denied*, 481 U.S. 1059 (1987) (describing cornea removal as "an infinitesimally small intrusion which does not affect the decedent's appearance").

140. Orlowski et al., *supra* note 75, at 441 (advocating new legislation permitting the use of corpses for nondisfiguring training programs).

141. UNIFORM ANATOMICAL GIFT ACT § 3 U.L.A. 40 (1987) (listing of next-of-kin who control donation decisions in order of authority).

rise to a cause of action for tortious interference with a dead body.¹⁴² In cases where the tort is accompanied by willful or wanton conduct, recovery for mental anguish is possible.¹⁴³ In one recent case claiming tortious interference with a body, the court required the plaintiffs to show either a physical impact or malicious conduct by the defendant.¹⁴⁴

In *Gonzalez*, the plaintiff parents sued a funeral home which mistakenly buried the wrong infant at their daughter's funeral. Because the court found no allegations or evidence of physical impact and because the funeral home had no malicious intent, the court affirmed summary judgment for Dade County.¹⁴⁵ The parents unsuccessfully argued that the Restatement (Second) of Torts section 868 should apply, providing that "[o]ne who intentionally, recklessly or negligently removes, withholds, mutilates or operates upon the body of a dead person or prevents its proper interment or cremation is subject to liability to a member of the family of the deceased who is entitled to the disposition of the body."¹⁴⁶ The Restatement's position, however, is the minority view,¹⁴⁷ and the *Gonzalez* court rejected it as contrary to Florida state law.¹⁴⁸

Since *in situ* organ preservation involves the intentional insertion of catheters, it could fall within the scope of the Restatement's minority view, but only if the procedure is seen as "mutilating" or is viewed as "operating" upon the body. The procedure would not deprive the family of the body for burial, however, nor would any of the incisions be noticeable once the corpse was clothed. Therefore this procedure is unlikely to be perceived as mistreatment of the corpse. While the insertion of

142. *Powell*, 497 So. 2d at 1191 (discussing how interference with limited right to body for burial may cause action for tortious interference).

143. PERCIVAL E. JACKSON, *THE LAW OF CADAVERS AND OF BURIAL AND BURIAL PLACES* 144 (2d ed. 1950) (underlying principles of tort law are applicable in cadaver cases).

144. *Gonzalez v. Metropolitan Dade County Pub. Health Trust*, 626 So. 2d 1030, 1033 (Fla. Dist. Ct. App. 1993), *aff'd*, 651 So. 2d 673 (Fla. 1995) (failing to prove physical impact or malicious conduct results in no recovery for tortious interference).

145. *Id.* at 1033.

146. RESTATEMENT (SECOND) OF TORTS § 868 (1979).

147. W. PAGE KEETON ET AL., *PROSSER AND KEETON ON THE LAW OF TORTS* § 54, at 362 (5th ed. 1984) (providing for recovery to families for negligent mishandling of corpses).

148. *Gonzalez*, 626 So. 2d at 1033 (stating that only two cases in Florida dealt with § 868 and neither case relied upon the Restatement for its decision).

catheters would be intentional, such conduct is hardly "willful and wanton," rising to the level of an intentional tort.

Under the prevailing common law rule, *in situ* preservation carries little risk of liability because it does not interfere with generally accepted liberty or property interests of the decedent's family or with the family's right to control the disposition of the body. If the family chooses not to donate, the body can be released to their care immediately. Similarly, under the minority or Restatement view, intentional mutilation of the body is required for a cause of action to arise. The *in situ* procedure is not likely to be interpreted as mutilating, and thus the risk of liability is low.

V. CONCLUSION

This Note attempts to address the most important legal and ethical considerations involved in the practice of *in situ* organ preservation. None of these considerations present insurmountable obstacles to the adoption of the practice. In advocating the adoption of the *in situ* procedure, at least within a limited test area, a number of strong arguments exist favoring such a trial.

First, the potential success of *in situ* cooling has already been demonstrated by a number of research teams.¹⁴⁹ Adequate background research has been conducted, and it is time to test the practice on a broader scale. Second, the procedure is a better alternative to existing procedures and policies because it preserves for the family the right to donate. Moreover, it is not as ethically objectionable to the American public as are presumed consent, compensation, or organ markets. Third, society has an ethical obligation to attempt to increase the pool of donors while respecting the individual's and family's decision whether or not to donate.

Among the remaining obstacles to the successful implementation of the procedure is the lack of federal legislation

149. Anaise & Rapaport, *supra* note 5, at 2153-54 (citing studies in the United States, Europe, and Japan which demonstrate the potential value of *in situ* cooling). See also Ruers et al., *supra* note 7, at 408-10. D. Anaise et al., *Flush Pressure Requirements for Optimal Cadaveric Donor Kidney Preservation*, 20 TRANSPLANTATION PROC. 891, 891-94 (1988) (studying the effect of *in situ* cooling techniques on cadaveric kidneys).

permitting deferred family consent. Without this crucial legislation, hospitals and physicians cannot be adequately assured of immunity from liability. Lack of immunity and its implication of possible liability deters health care providers from using the *in situ* procedure.

Once the appropriate legislation has been passed, adoption of the protocol proposed below will adequately safeguard against possible abuses of the procedure. The protocol provides guidelines to assure that physicians will perform the procedure only when resuscitation has proved futile. Furthermore, its adoption will encourage public debate about the option of *in situ* preservation. Participation by the public is essential to garner support for this procedure in particular and for organ donation in general.¹⁵⁰

Most importantly, *in situ* organ preservation will safeguard the family's right to make an informed decision about organ donation. The time before harvest that the procedure provides affords the family the opportunity to decide in an unpressured setting what their loved one would have wanted. It allows families time to give the gift of life without adding to their grief.

The following protocol is suggested for implementation of *in situ* organ preservation at facilities adequately equipped to perform organ transplantation:

The hospital must consider as potential organ donors all patients who develop irreversible cardiac arrest in any of the following circumstances: 1) patients with severe head injury; 2) patients with stroke; 3) patients who are brain dead; and 4) patients with known severe heart disease.

Before the determination of death, the following criteria must be met: 1) cardiac unresponsiveness after cardiopulmonary resuscitation of at least ten to fifteen minutes duration; 2) no cardiac activity for five minutes after cessation of resuscitation efforts; and 3) absence of brain activity after fifteen minutes of resuscitation at normal body temperature.

150. Youngner et al., *supra* note 107, at 323 (quoting William May, "[i]t is not advisable in the pursuit of worthy social goals to sidestep or repress the element of aversion with respect to means The question remains whether a system that overrides rather than faces up to profound reservations is not, in the long run, more ghoulish in its consequences for the social order").

In the absence of a donor card, all reasonable attempts must be made to obtain the family's permission during the resuscitation effort. If the victim carried a donor card or otherwise indicated his or her willingness to become a donor, no family consent is necessary for the institution of the procedure, although obtaining the family's consent is strongly recommended. If there is no donor card and the family is unavailable to consent, the procedure should be instituted, but no additional steps may be taken to retrieve the organs until consent has been obtained. The catheters may remain in the body for up to four hours.¹⁵¹

This protocol, if diligently followed, will address the legal and moral concerns raised in this Note while substantially increasing the organ donor pool. The introduction and use of such a protocol is the first step towards public awareness and, hopefully, acceptance of *in situ* preservation as a means of increasing the number of organs available for donation.

151. See Gómez, *supra* note 92, at 1501-02 (describing one institution's program for donor selection).