Medical-Legal Problems of Organ Transplantation

Victor Richards
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By Victor Richards, M.D.*

Medicine and the Law are currently confronted with three great revolutions: (1) the Industrial and Technological Revolution, (2) the Scientific Revolution, and (3) the Genetic Revolution. These revolutions have raised the following questions in both the legal and medical fields: Which doctor can save life? Which patient is dead? Which person shall receive the benefit of organ transplantation? Who shall have the right to live? Which laws shall govern life and death for the individual? Rational solutions to these complex problems require, and will demand in the future, the clearest thinking and sharpest decisions of our finest medical and legal minds. The critical forces in society are clearly becoming not only economics, politics, and the flow of capital, but also technological innovation, scientific advance, and genetic engineering. Evolution in technology and science is inevitable and scientific advance has increasing relevance not only to the medical community but to the legal community as well.

Medicine and Law have a common ultimate goal: serving the public good and interest. Every man feels and senses the problems in his environment. The bedrock assumptions remain: (1) that man is capable of understanding his problems with insight, wisdom and intelligence; and (2) that man is capable of making laws dealing with these problems—preserving the rights of the individual, yet serving in the public interest.

Science and medicine, to advance, must be free of dogma and orthodoxy. The laws must be practical, philosophical, ethical, just, and equal. Evolutionary change in both medicine and law is desirable, and indeed, inevitable. Nevertheless, it is not the objective of bringing science under the law, but the common goal of enriching life and its quality that guides the scientific and legal transitions.

It is in this general frame of reference that we now approach the problems of tissue and organ transplantation as they influence individual

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and communal life. The technological goals have been achieved; it is now simple to transfer any organ or tissue from one individual to another, with the exception of the brain. Science has progressed to where it is possible with potent drugs and sera, to sustain the life of transplant recipients for long periods of time; but the quality of life, duration of benefits and cost of sustaining life still remain open to critical medical and legal appraisal. This article will focus on the scientific and eugenic problems remaining in organ transplantation, and the legal problems involved. As will be seen, the problems with reference to paired organs (such as the kidneys and lungs) are quite different from problems with respect to single organs (such as the heart and liver) and our analysis of the problems will deal largely with transplantation of kidneys, as the dual organ transplant, and the heart as the single organ transplant.

I. Kidney Transplantation

Over 20,000 patients die each year in the United States from such major renal diseases as tumors, nephritis, pyelonephritis, and polycystic kidney disease.\(^1\) Approximately 8,000 of those dying are individuals in the 5-60 age group, the group that includes virtually all of the kidney recipients.\(^2\) Therefore, it can be estimated that by 1977, 5,000 kidney transplants will be required annually if renal transplantation is to fulfill its potential as a remedy for renal disease.\(^3\)

There are four sources of kidneys for transplantation: (1) artificial organs; (2) animals; (3) a cadaver; (4) a live human donor. The possibility of developing a small artificial kidney that can be implanted in man certainly exists.

In light of new developments, small tubular membranes can be packed into a unit that is small enough to be transplanted, yet has sufficient surface to permit the filtration of toxins out of the blood stream.\(^4\) At the present time, however, such artificial kidneys are not available and we are confronted with the necessity of using other sources.

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3. Moore, Burch, Harken, Swan, Murray & Lilliehei, Cardiac and Other Organ Transplantation, 206 J.A.M.A. 2489, 2490 (1968) [hereinafter referred to as Cardiac Transplantation].
4. See generally Levine & La Course, Materials and Design Consideration for a Compact Artificial Kidney, 1 JOURNAL OF BIOMEDICAL MATERIALS RESEARCH 275 (1967).
Grafts from nonhuman animals have been tried, but have been entirely unsuccessful thus far in solving the problem of kidney transplantation. No xenograft has lived longer than nine months; and during the period the xenografts were in place, the grafted individual was completely incapacitated. At the present time efforts to use xenografts have been abandoned until further research reveals methods with a greater possibility of success.

The third source of kidneys for transplantation is the cadaver. Each cadaver could supply two kidneys; but not all cadavers are acceptable for transplantation. In fact, medical studies on cadavers have suggested that only about 7 percent of the persons dying in a hospital environment could be considered potential donors. The ideal donor is a young person who dies as a result of a brain tumor, an accident, or in the course of cardiac surgery. Excluded as donors would be persons dying of systemic infection involving the kidney, persons with cancer, and persons with a transmittable disorder.

Unfortunately, the kidney is a very complicated organ which begins to deteriorate rapidly after its blood supply has ceased. It is essential, therefore, that the kidney be removed as early as possible after death; after a one hour delay the kidney becomes so badly damaged that it will no longer function in the transplanted state. The requirement of immediate removal, together with the other medical problems accompanying death, limits the number of cadaver kidneys available for transplantation. If the kidneys from all dying persons were automatically available, however, the logistical problems of matching donor and recipient by tissue type and of transporting donor or recipient to the site of the transplantation would be greatly diminished. Also required

5. Grafts from nonhuman animals to man are termed xenographs. The operation is known as heterotransplantation. 1 Schmidt's ATTORNEY'S DICTIONARY OF MEDICINE 407 (1969).


10. Virginia recently added the following section to its medical examiner statute: "In any case where a patient is in immediate need for an internal organ as a transplant, the Chief Medical Examiner or his deputies where a decedent comes under their jurisdiction; who may provide a suitable organ for transplant and there is insufficient
is a workable system for the exchange of information regarding the availability and location of possible donors. One noted specialist explains the problem as follows:

Potential donors often do not die in institutions performing kidney transplants, so that from the standpoint of transplantation teams there is a maldistribution of cadaver donors. But if logistics had been perfect, patients dying with subarachoid hemorrhage could have supplied about 10,600 kidneys for the 7,644 potential kidney recipients.\textsuperscript{11}

Sufficient exchange of information, provisions for the rapid transportation of transplant organs across state boundaries, and availability of organ storage equipment\textsuperscript{12} would have made many of these kidneys available for transplantation.\textsuperscript{13}

time to contact the next of kin of the decedent in order to maintain the viability of the organ to be transplanted, and no known objection by the next of kin is foreseen by the Chief Medical Examiner or his deputies: the Chief Medical Examiner or his deputies may in their discretion where providing the organ for transplant will not interfere with the subsequent course of the investigation or autopsy provide such organ on the request of the transplanting surgeon.” VA. CODE ANN. § 19.1-46.1 (Supp. 1968). Since kidneys must be removed, either for transplanting or storage, within one hour after death (note 9 supra), this statute may provide many opportunities for the medical examiner to act immediately without awaiting permission from the next of kin.

The Texas Legislature has recently (Apr. 17, 1969) enacted a similar law. It provides that when a prospective donor dies under circumstances which might require an autopsy, the medical examiner of the county is to be immediately summoned. He is required to go to the transplant facility and determine if an autopsy is required. “(c) If an autopsy is required, the medical examiner . . . will examine the organ to be transplanted in its whole state and will examine any other clinical evidence on the condition of the organ. (d) The organ to be transplanted will then be released to the transplant team . . . .” VERNON’S TEXAS Sess. LAW SERv., ch. 336, § 1, at 1033-34 (1969), amending TEX. CODE CRIM. PROC. art 49.25 (1966).

This statute could make available for transplantation kidneys which might otherwise be lost in the delay normally accompanying an autopsy. Similarly, once successful cardiac storage facilities are developed, the statute might prove a valuable source of transplantable hearts. For the present, the brief period of transient allowable in heart transplantation precludes successful invocation of this legislation. See text accompanying notes 51-52 supra.


12. Many doctors are currently exploring methods for the prolonged preservation of organs, using either low temperature techniques, which reduce the metabolic needs of the organ, or perfusion of the organ with appropriate nutrient media. At the present time livers have been successfully transplanted after 8 hours and kidneys after 24 hours of perfusion. Success of various storage methods will make many organs, now lost from rapid degeneration after death, available for transplantation. Belzer, Ashby, Huang & Dunphy, Etiology of Rising Perfusion Pressure in Isolated Organ Perfusion, 168 ANNALS OF SURGERY 382 (1968); Gleason & Murray, Report from Kidney Transplant Registry: Analysis of Variables in the Function of Human Kidney Transplants, 5 TRANSPLANTATION 360 (1967).

The fourth source of kidneys for transplantation is the living donor. Transplantation of kidneys between identical twins\textsuperscript{14} was accomplished in the late 1950's\textsuperscript{15} after studies demonstrated that genetic identity between the donor and recipient invariably permitted the successful transplantation of a kidney. In the early 1960's attempts were made to transplant kidneys between individuals who were not genetically identical.\textsuperscript{16} There was no significant survivals until sufficient knowledge of graft rejection led to the proper use of immunosuppressive agents.\textsuperscript{17}

\begin{itemize}
\item \textsuperscript{14} A transplantation between identical twins is known as a syngeneious transplant. 2 SCHMIDT'S ATTORNEY'S DICTIONARY OF MEDICINE 779 (1968).
\item \textsuperscript{15} M. WOODRUFF, THE TRANSPLANTATION OF TISSUES AND ORGANS 535-37 (1960).
\item \textsuperscript{16} Cardiac Transplantation 2490.
\item \textsuperscript{17} The main immunosuppressive agents which have been developed since 1960 include immuran (azathioprine), actinomycin, X-Ray therapy, and corticosteroids. Cardiac Transplantation 2490.
\end{itemize}

No one can currently predict when the immunological barrier to the transplantation of organs will be overcome. The clinical results in transplantations, particularly in kidneys, have been so successful that it has defied comprehension of the basic immunologists. The distressingly poor results in cardiac transplantation have been predicted by the basic immunologists and, indeed, many of them feel that further transplantation of organs of this type should not be carried out until there has been a resolution of these immunological problems. Similarly, many of the basic biologists feel that the cost and effort currently expended for clinical transplantation might be more profitably utilized in studies of the basic biological mechanisms. As a result, each year, international conferences are being held in order to reevaluate mechanisms which produce the immune responses.

It would appear that there is a possibility of inducing tolerance between individuals, this tolerance being determined by various properties of the antigen concerned and by the dose in which it is administered. Scientists are optimistic that the proper use of antigens can induce specific tolerance in adult animals, but formal proof of this proposition remains as illusive as ever. Natural tolerance is a phenomenon of intrauterine development of the embryo; acquired tolerance in the adult is still an unattainable goal except under very specific and impractical laboratory circumstances. With the advent of anti-lymphocyte serum and more specifically of anti-lymphocyte globulin, it was hoped that one could achieve a specific destruction of the lymphocytes and/or macrophages involved in the immunological response and thereby obtain prolonged tolerance of homographs. Unfortunately, it would appear that although anti-lymphocyte globulin is a desirable adjunct to organ homotransplantation, it does not solve the problem; its prolonged use results in an anti-anti-lymphocyte serum. Furthermore, it would appear that the response engendered by a prolonged use of anti-lymphocyte serum is nonspecific, since certain normal mechanisms of immunological surveillance cease functioning. This permits the recipient of an anti-lymphocyte serum to develop cancers of the lymphoreticular tissues in an unwelcome but definite percentage of cases.

The discovery of new drugs which will selectively suppress the immune rejection transplantation has not occurred. Immuran, which was discovered a number of years
At present there have been less than 2,000 kidney transplants completed around the world, including kidney transplants of live donor kidneys from a relative or friend and of cadaver kidneys. The results from kidney transplants are far better if one can obtain a live, related donor with appropriate tissue typing, so that the donor and the recipient match in their tissue types to a maximal degree. A transplant registry has been established, where virtually all transplants are listed by results and individual groups. Of the patients receiving transplants, remains the drug par excellence in the treatment of the immune rejection phenomena. Nevertheless, the ability to accurately suppress specific immune responses and thereby permit homograft transplantation seems to all an ultimately soluble problem. Transplantation of organs would then become a frequent yet expensive medical practice. See generally Murray, Wilson, Tilney, Merrill, Cooper, Birtch, Carpenter, Hazer, Dammin & Harrison, Five Years’ Experience in Renal Transplantation with Immunosuppressive Drugs, 168 Annals of Surgery 416 (1968).

18. Cardiac Transplantation 2490.

19. “According to the most recent tabulations of the Registry of Human Kidney Transplants reporting on 627 kidney homotransplants, the proportion of donors in human kidney homografts has been as follows: Parents, 28.2%; siblings, 16.3%; other blood relatives, 1.9%; unrelated live donors, 15.2%; and cadavers, 38.4%.” Couch, Supply and Demand in Kidney and Liver Transplantation: A Statistical Survey, 4 Transplantation 587, 590 (1966).


The results from transplantations, together with experimental work on human tissues, persuasively suggest that the number of strong antigens involved in the rejection of homographs in man is rather limited, and that this limited number of strong antigens can be readily detected by present serologic techniques. In fact, many groups around the world are currently working with white cell (lymphocyte) and tissue typing; it would appear that the success of transplantation of organs is closely correlated with an accurate matching of the histo-compatibility antigens which can be determined by lymphocyte and tissue typing.

Everyone is familiar with the grouping of blood into A, B, & O groups, with cross matching between groups dependent on various factors, including the RH factor. In tissue typing, serologic methods for classifying the tissues can be compared with blood-type grouping, and various new tests involving specific reactions of lymphocytes can be related to cross-matching. The clinical work with kidney transplants clearly shows that sibling donors, although not as satisfactory as monozygotic twins, are more successful than distantly related donors, and these in turn are far more successful than grafting between unrelated donors. With the likelihood of sufficient donor organs being available from related donors, the importance of typing and matching to allogeneic transplants becomes immediately apparent.

The long term success rate of homographs is clearly related to proper matches between tissue types at the transplantation locus. Scientists are optimistic about the prospects for a form of typing or cross matching, and with continued progress successful allogeneic transplantation of organs should be possible within the next three to ten years. See generally id.

21. See note 20 supra.
plants from related living donors, 60 percent have survived over the past four years. In some clinics, there is an 80 percent survival figure for the last three years. Even with our currently imperfect methods, the five year survival rate for kidney transplants is better than the five year survival rate of the majority of patients treated for various cancers. The closer the genetic match between donor and recipient, the greater the likelihood of survival of a renal transplant and the more permanent the function of the transplanted kidney with respect to the passage of time. The "perfect" transplant, therefore, is the syngenic transplant between identical twins, because of the genetic identity between the donor and the recipient.

The success rate from cadaver donors has not been as high as that from live donors. The survival rate for those patients who received kidneys from cadaver donors more than four years ago is 30 percent while 60 percent of such recipients who underwent renal transplantation one to three years ago continue to survive. Nevertheless, pathological studies have shown that all homografts are undergoing a slow rejection.

Nearly all transplanted kidneys will fail through rejection unless immunosuppressive agents are administered on a continuing basis. The degree of immunosuppression required depends upon the antigenic diversity between the donor and recipient, so that minimal immunosuppression is required when the donor and recipient are closely matched with respect to their tissue typing antigens. The dosage of the immunosuppressive drugs required is important because such drugs suppress all immune response of the transplant recipient and may cause deleterious side effects.

22. Cardiac Transplantation 2490.
23. Id.
24. Id.
25. See note 19 supra.
26. Cardiac Transplantation 2490.
27. Id.
28. Cardiac Transplantation 2490.
30. The H.L.S. system is the antigenic system most closely related to tissue and organ transplantation. For a good discussion see Cardiac Transplantation 2490-91.
31. The deleterious side effects of the immunosuppressive agents (Immuran, Corticords, Actinomycin and X-Ray) include suppression of growth of young children,
The increased likelihood of success of the transplantation of a kidney from one live human being to another, particularly evident if there is a genetic relationship between donor and recipient, is a prime factor in favor of such a graft. However, there are problems attending a transplant from a live donor. Being asked to donate a kidney places the potential donor under psychological stress. Also, the donor is subjected to definite medical risks. Although no live donor has thus far succumbed to such an operation, the risk remains that ultimately such a death will occur. Furthermore, the donor is left with only one kidney. The effect of the removal of one kidney on the longevity of the donor, and the increased risk of renal failure in the remaining kidney has not been established. The propriety of subjecting a donor to such risks has been established largely by common usage; but optimistically, doctors would prefer to perfect artificial kidneys or to use cadaver kidneys in an effort to avoid these complex psychological and medical problems.

A. Problems Inherent in Kidney Transplantation

1. Donation of Kidneys

At the present time the law permits an adult, informed of the risks and consequences, to donate a kidney. There is some question, however, whether the donor is acting free of coercive forces. The donor is subjected to extreme psychological and emotional pressures inherent in his opportunity to save the life of a friend or relative; but despite the existence of such moral pressures, practice has established the fact that a fully informed adult is sufficiently free of coercion to give valid consent.

The problem becomes more complex when one deals with donation of a kidney from a minor, since the minor, of course, is incapable of consent. The parent can consent to the operation on a minor, even though it certainly would not be for the benefit of the donor child; but because of the potential liability involved in such an operation, most surgeons refuse to take an organ from a minor without a court order.

reduction in the ability of the body to defend itself against bacterial, viral and fungus infections, suppression of the bone marrow, skeletal lesions with softening of the bones, hypertension or high blood pressure, and other undesirable metabolic consequences.


34. E.g., Bonner v. Moran, 126 F.2d 121 (D.C. Cir. 1941).
On three occasions, Massachusetts courts have authorized the removal of a kidney from a minor to be transplanted to his identical twin, which is the optimum situation for renal transplantation. Although the minors were 19, 14 and 14 years of age respectively, the donors, their parents, and the surgeons had all consented to the operation. In rendering the decision, the court found in each case that the healthy twin fully understood the nature of the operation and its possible consequences. The court also determined that the healthy twin would benefit from the transplantation in that performance of the operation would avoid the suffering and profound emotional distress which the potential donor would suffer knowing the transplantation would have saved the life of his twin.

2. Sale of Kidneys

The question has also arisen concerning the sale of organs for renal transplantation. At the present time, of course, many individuals sell their blood to the blood bank; but the risk of selling one kidney far surpasses the risk of contributing a pint of blood to the blood bank. The general feeling at the present is that the sale of organs should not be permitted. The principles of medical risk and psychological stress would not apply to the donation of cadaver organs or to their sale; but thus far the sale of cadaver organs has not occurred.

3. Selection of Individual to Receive Treatment

In order to preserve the life of an individual suffering renal failure, to perform transplantation successfully, and to care for the patient through potential crises until survival of the transplant occurs, adjunct hemodialysis facilities are essential. While artificial kidney centers

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35. The cases, not printed in the official reports, are discussed in Curran, A Problem of Consent: Kidney Transplantation in Minors, 34 N.Y.U.L. Rev. 891 (1959).
36. Id. at 893-95.
37. Id.
39. Hemodialysis is the filtration of the blood by circulation through an external artificial kidney. The technique of hemodialysis had been greatly simplified in recent years with the development of arterial-venous shunts which the patient can wear permanently. These shunts consist of a small piece of teflon which can be inserted into an artery of the body such as the radial artery, make a U-turn and empty back into a forearm vein such as the cephalic vein, and there stay permanently open. It is possible to connect the external shunt to an artificial kidney and to perform hemodialysis on a daily or twice weekly basis if needed, and then disconnect the patient from the hemodialysis machinery, reestablish the shunt and permit him to go about
established around the world have made hemodialysis more available and have helped to reduce the cost of treatment, one center with maximum efficiency and optimum personnel can only care for ten to thirty patients per year. A prolonged favorable outcome from chronic human dialysis requires meticulous attention to detail in both the medical and paramedical aspects of total patient care. Chronic hemodialysis suboptimally done is not in the patient's interest and generally results in an incapacitating life or death.

The limited facilities available raise the very complex question: Who gets the available kidney, whether artificial or transplanted? Patient selection becomes one of the crucial problems in organ transplantation. The current answer to the question is determined by a medical evaluation, a psychiatric evaluation, a sociological evaluation and an evaluation of the recipient's potential contribution to society. The medical evaluation centers on the health and age of the patient. Generally, the healthier the patient, the more suitable he is for hemodialysis. Most patients over 50 years of age or under 13 years of age are rejected for chronic hemodialysis but they certainly could be considered for renal transplantation.

Because treatment is long, protracted and difficult, the psychiatric evaluation of the patient hinges on his intelligence, his ability to take care of his health once treatment with the artificial kidney or transplantation has occurred, and his ability to tolerate complications, depression, and discouragement. The patient must have the ability to live in an insecure and uncertain environment, for once renal failure has occurred, his future health is always in jeopardy.

Even more difficult is the evaluation of the social worth of the patient and his potential contribution to society at large following successful treatment of the renal failure. Indeed, it is questionable if social worth evaluations should be made at all.

The selection of patients for hemodialysis or transplantation requires equal and just treatment for all. Once it has been decided that normal activities. The artificial kidney does the work of a normal kidney by removing blood waste products such as urea and creatinine, regulating the salt and water balance of the patient, and ridding the body of the excess fluid.

Hemodialysis has been developed now to where it can occur in the patient's home as well as in the hospital. Home dialysis requires the patient and his family to assume the obligations of proper control of the dialysis unit, including control of the blood electrolytes in the patient, his blood volume and his general well-being. Not everyone would submit to home dialysis, but it is far less expensive than hospital dialysis ($5,000 to $7,000 per year for home dialysis as opposed to $10,000 to $15,000 per year for dialysis at an artificial kidney center).
the patient is a good medical risk for dialysis or transplantation, the choice would then have to be made on judgments other than individual or social worth. Possible methods would include: (1) first come, first served; (2) lottery or random selection; (3) rules announced in advance that are constitutionally just and nondiscriminatory; and (4) the patient's ability to pay.\textsuperscript{40} The method used should be determined by federal statute to insure uniform standards throughout the country.

The problems involved in the treatment of renal failure, either by chronic hemodialysis or by transplantation, continue to pose problems which we are still unprepared to answer. As one writer explains:

> Scientific technology and medical research have ushered us precipitately [sic] into a civilization for which our legal institutions are not yet prepared. We are entering an era in which power is based not on conventional forms of property, but on technical knowledge and intellectual skills. The ancient dream of a physician—to have his patients die young and as late as possible—may be realized through the application of medical technology. But medical technology is power, and the supervision of power is, in our civilization, the first function of law. If history is a guide, many problems incubated in hospitals will occur in our courts.\textsuperscript{41}

\section*{II. Cardiac Transplantation}

The technical aspects of transplantation of the entire heart were worked out in experimental surgical laboratories in the late 1950's. The first successful human heart transplantation was accomplished in December of 1967.\textsuperscript{42} The goal of cardiac transplantation is the long-term restoration of a critically ill patient to a productive and personally enjoyable life.

At the present time in America there are approximately 200,000 deaths each year from acquired or congenital heart disease in the 15 to 64 age group.\textsuperscript{43} Nearly 160,000 of these deaths are the result of coronary heart disease.\textsuperscript{44} 80,000 such deaths occur before the patient reaches the hospital.\textsuperscript{45} Among the 80,000 who survive coronary heart disease long enough to be hospitalized, it is estimated that as few as 10,000 or as many as 50,000 may require total cardiac replacement.\textsuperscript{46}

Mechanical hearts, comparable to artificial kidneys, are just be-

\footnotesize{\begin{itemize}
\item \textsuperscript{41} \textit{Id.} at 386.
\item \textsuperscript{42} \textit{TIME}, Dec. 15, 1967, at 64.
\item \textsuperscript{43} \textit{Cardiac Transplantation} 2497.
\item \textsuperscript{44} \textit{Id.}
\item \textsuperscript{45} \textit{Id.}
\item \textsuperscript{46} \textit{Id.}
\end{itemize}}
ginning to emerge and currently are limited by technological developments, power source problems, and hemolytic difficulties with the pumped blood. In our present state of knowledge, then, transplantation of the heart is the more practical long-term alternative for the care of these 50,000 patients. This assumes, of course, that cardiac transplantation has the likelihood of long-term success equal and comparable to that existing now for renal transplantation.

As of October 1968, approximately 66 human heart transplants had been carried out, and in more than 90 percent of these, immediate successful function of the heart has occurred. Unfortunately, the goal of full restoration to a useful and satisfactory life has been achieved in only one or two patients in this entire group. Indeed, the first successful patient to receive another person's heart is the only person to survive cardiac transplantation beyond one year. A report in October of 1968 showed that only 31 of the original group of 66 transplants were still living, and only 2 of these had survived longer than 6 months. The feasibility and validity of cardiac transplantation has been demonstrated; but the immunological rejection phenomena still militates against long term survival of the transplanted heart. Nevertheless, several important factors have emerged. Optimally, the donor organ should be promptly removed while it is still viable, beating and contracting; the recipient should be undergoing operative removal of his own heart simultaneously; and the period of transient should be held to a minimum. The period of transient for a successful heart transplant varies between 45 and 60 minutes. After 60 minutes, damage to the donor heart occurs from ischemic arrest.

What is badly needed, of course, is a technique for cardiac preservation so that more time can elapse between removal of the donor heart and its insertion into the recipient.

A. The Source of Hearts for Transplantation

National surveys have indicated that 70 percent of the population

47. Id. at 2493.
48. The recipient of the third human heart transplant and the first successful cardiac transplant, Dr. Philip Blaiberg, died August 18, 1969, approximately 18 months after receiving the transplanted heart. TIME, Aug. 29, 1969, at 34.
50. The period of transient, during which the heart is removed from the donor before it is successfully transplanted into the recipient, is known as ischemia. 1 SCHMIDT'S ATTORNEY'S DICTIONARY OF MEDICINE 485 (1969).
51. Cardiac Transplantation 2493.
may be willing to donate their bodies for medical research or therapy; the total pool of donors, however, must be limited to those dying between the ages of 15 and 64 of causes other than heart disease or cancer. The total pool of donors in the United States then diminishes to 260,000 people per year and this group includes those who die of infections, blood disorders, and degenerative diseases, not all of whom would be suitable donors for heart transplantation. Matching the pool of willing donors to a possible 50,000 recipients would be further complicated by the need for proper tissue typing and matching between donor and recipient, and the problem of organ preservation, and transportation of either the donor or the recipient to a location suitable for successful transplantation.

Particular care should be given to the threatened rejection of the transplanted heart. Patients receiving the heart of another are given immunosuppressive drugs and seem to be particularly prone to bacterial infections during the post-transplant period. It appears that it is more important to isolate these patients for longer periods of time than is necessary for kidney patients. The recipient should be essentially well and normal except for the damaged heart, and the prospective donor should have been young, vigorous, and optimally, have died from irreversible and irreparable brain damage with normal cardiac function up to the time the heart is removed.

Mechanical devices are helpful for preservation of both donor and recipient in a heart transplantation. At this time the artificial heart and related cardiac assistance devices do not compete with but complement cardiac transplantations. It is very likely that in the future artificial or mechanical hearts may be employed for long-term partial or total cardiac substitution.

B. Professional Response to the Moral and Ethical Issues in Cardiac Transplantation

The present results of cardiac transplantation raise the serious moral and ethical problem of whether human heart transplantation

52. Id. at 2494.
53. Id. at 2497.
54. Id. at 2498.
55. The immunosuppressive agents include: Immuran, steroids and anti-lymphocyte globulin.
56. Up to the present time the majority of donors for heart transplantation has come from victims of trauma or spontaneous brain hemorrhage. On a national basis it is estimated that there are about 60,000 such victims annually in the United States. Cardiac Transplantation 2498.
57. Id. at 2494.
should be continued in the absence of a complete resolution of the problem of immunological rejection of foreign tissue. Such considerations have produced a statement by the House of Delegates of the American Medical Association addressed to the continuing debate within the medical profession, the public press and legislative councils on the problem of heart transplantation. It focuses on the physician's responsibility in the determination of death, the protocols for clinical investigation and the direction of medical research in heart transplantation. It offers the following guidelines: (1) Cardiac transplantation should be done only in special centers in which adequate backgrounds in animal research exist, in which experience with immunosuppressive therapy including anti-lymphocyte globulin has been accumulated, and in which protocol for clinical research is adequate to follow and evaluate the patients, so that records may be accurately evaluated on a national basis. (2) Due regard must be maintained for the welfare and safety of each individual patient undergoing cardiac transplantation. (3) The cause of the donor's death must be evident and of an irreversible type. In the opinion of the physicians making the determination, the fact of death must be established by current and acceptable scientific evidence. The determination of death of the donor must be made by no less than two physicians not associated with the surgical team performing the cardiac transplantation. (4) An attempt should be made to overcome the disparity between the need and supply in organ transplantation by adoption of the Uniform Anatomical Gift Act or similar laws. Cooperative donor organ programs should be established. (5) While the use of public news media for self-seeking purposes by any physician is unethical, the public communications media must be wisely used to gain public support. (6) The public must be fully aware of the potentialities and limitations of heart transplantation and fully aware of the protocols being used in the clinical investigations being undertaken.


59. *Id.* at 1704-06. A similar proposal appeared in *Cardiac Transplantation* at 2499:

V. Recommendations

V, 1.—*Cardiac transplantation*, still in an early stage of development, shows promise for the future treatment of many people with severe heart disease; it should be conducted by surgeons with proven capability in cardiac surgery, physicians experienced in all phases of cardiology, and with the collaboration of persons experienced in immunosuppression and transplant biology.

V, 2.—The need for new knowledge from *basic and applied research* for the continued improvement of all transplantation is emphasized.
Many legal problems arise from the recent progress in the field of organ transplantation. Among the more difficult problems are: (1) Can the living person bequeath his organs or his body to medical authorities for their use? (2) Must the next of kin consent to the removal of organs from a cadaver? (3) Is death defined in terms of an organ or a body? (4) When is a person dead? (5) Can a live organ be removed from a dead patient? (6) How shall organs be allocated, or who gets the necessary transplanted organ? (7) Can organs be removed from traumatic cases pronounced dead, prior to a coroner's autopsy? Resolution of these problems must be accomplished in the near future, since the medical barriers to successful transplantation are yielding rapidly to scientific progress.

There are three broad concepts on which legal proposals should be based: First, live or potentially viable organs from dead patients or cadavers should be available to potential recipients. No longer needed

V, 3.—A national transplant registry, utilizing the experience of the present Kidney Transplant Registry, should be established. The organization assuming this responsibility might make computer-processed data on all clinical transplantation of all vascularized organs available.

V, 4.—The costs of patient care are very great and generally cannot be borne by patients or their families. New sources of support must be mobilized—individual, local, and federal. Private and public insurance must be coordinated. Support for patient care can appropriately be borne by research grants only when the research itself is productive.

V, 5.—A regional type of organization is recommended both for the referral and management of patients, and for the procurement, preservation, and distribution of scarce anatomical resources. There should be interregional coordination.

V, 6.—The Uniform Anatomical Gift Act, prepared by the National Conference of Commissioners on Uniform State Laws, has been endorsed by the American Bar Association. It is essential that all appropriate medical and legal groups work together to support the adoption of the Uniform Act in every state.

V, 7.—The Regional Medical Programs of the Department of Health, Education, and Welfare should provide an ideal new source for the financial support of patient care, clinical research, regional organ procurement, preservation, and distribution.

V, 8.—The basic science background of transplant science has been supported by the National Science Foundation, National Institutes of Health, and private foundations as well as, to a lesser extent, other governmental agencies including the Army, Navy, and National Aeronautics and Space Administration. Basic science lies very close to clinical application in the transplant field; basic advances (anti-lymphocyte serum, for example) may reach clinical application very rapidly. If current cutbacks in support of research continue, a severe slowdown in the increasing safety and applicability of cardiac transplantation will soon become evident. Proper federal support must be restored to these agencies, particularly the National Science Foundation and the National Institutes of Health.

V, 9.—A new pattern for a commission or agency on health service and science is recommended to protect and to maintain the national effort in biomedical sciences. This agency should maintain appropriate emphasis and priorities for all important fields, such as tissue transplantation.
by the decedent, such organs could enable another to enjoy continued life. Second, there should be access for all to the tools, techniques, and advantages of current knowledge and capabilities in organ transplantation, and to the available organs themselves. Third, the central social, moral, and ethical principle is the preservation of life.

In pursuing these broad legal guidelines, the bodily integrity of the living should be preserved. The desires of the decedent, with respect to the disposition of his body, should be honored and the interest of the bereaved survivors should yield to his request. If the decedent has not stated his desires with respect to disposition of his body, his next of kin should have the option of donating his organs. In this way their trauma would be minimized by providing rather than denying life to a recipient.

III. The Uniform Anatomical Gift Act

A. Background of the Act

English common law entitled a person's heirs to possession of the body in the same condition in which it was at the time of death. This right developed to enable the heirs to provide for the burial of the decedent. However, the heirs did not have "property rights" in the dead body, because a corpse was viewed as something incapable of being owned. It was not part of the decedent's estate and thus ownership did not descend to his heirs.

Early law in the United States followed this common law view, but more recent authority recognizes that an individual has sufficient interest in his own body to enable him to direct its postmortem disposition.

In nearly all states, the common law right of the next of kin to permit an autopsy on the deceased has been codified in autopsy statutes. Such statutes, however, generally are not broad enough to

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60. Note, Donations of Dead Bodies and Parts Thereof for Medical Use, 21 U. Pitt. L. Rev. 523, 528 (1960).
62. See Finley v. Atlantic Transp. Co., 220 N.Y. 249, 115 N.E. 715 (1917); Williams v. Williams, 20 Ch. D. 659 (1882). The court in Meagher v. Driscoll, 99 Mass. 281 (1868), stated: "By the common law, 'though the heir has a property in the monuments and escutcheons, yet he has none in their bodies or ashes . . . .'" Id. at 284, quoting 2 Blackstone, Commentaries* 429.
63. E.g., Enos v. Snyder, 131 Cal. 68, 63 P. 170 (1900).
allow the next of kin to donate the decedent's organs or tissue for research or transplantation. Such donations are beyond the scope of an autopsy.66

Similarly, most states provide for the delivery of unclaimed bodies to medical schools for dissection;67 yet, since such statutes contain minimum waiting periods, during which the hospital must make a reasonable search for the individual's next of kin,68 the organs of "unclaimed bodies" are not available for transplantation.69

In practically all states, the rights of the next of kin are supplanted by the authority of the coroner or medical examiner to perform an autopsy and determine the cause of death in violent or suspicious circumstances, or if the deceased was not attended by a physician within a fixed period before the time of death.70 Coroners and medical examiners, however, are usually limited to determining the cause of death; they cannot remove organs or tissue for other purposes without the consent of the next of kin.71

A recent Virginia statute72 directly confers upon the Chief Medical Examiner or his deputies the power to make organs, needed for transplantation, available if there is insufficient time to obtain permission from the next of kin. Since the heart must be transplanted immediately and the kidney removed from the deceased within one hour after death, such a statute would enable the authorized official to exercise his power in a great number of cases.

A Hawaiian statute73 gives the coroner's physician or a medical

(1968); IOWA CODE ANN. § 141.35 (Supp. 1969); N.Y. PUB. HEALTH LAW § 4210 (McKinney 1954).

66. "Autopsy" is defined as the dissection of a body for the purpose of inquiring into the cause of death. BLACK'S LAW DICTIONARY 170 (4th ed. 1951).

67. E.g., CAL. HEALTH & SAFETY CODE § 7203; KANS. STATS. ANN. § 65-901 (1964); N.Y. PUB. HEALTH LAW § 4211 (McKinney 1954); WIS. STATS. ANN. § 155.02 (1957).

68. E.g., CAL. HEALTH & SAFETY CODE § 7202; KANS. STATS. ANN. § 65-902 (1964); N.Y. PUB. HEALTH LAW § 4211 (McKinney 1954); WIS. STATS. ANN. § 155.02 (1957).

69. Such organs must be removed when they are living or viable. The long period of waiting destroys the organ's usefulness. See text accompanying notes 49-50 supra.

70. E.g., CAL. GOV'T CODE § 27491; ILL. ANN. STATS. ch. 19, § 10.2 (Smith-Hurd 1969); MINN. STATS. ANN. § 390.11 (1968).

71. See, e.g., Bonilla v. Reeves, 49 Misc. 2d 273, 275-76, 267 N.Y.S.2d 374, 377-78 (1966); CAL. GOV'T CODE § 27491.4: "[T]he coroner] shall have the right to retain such tissues of the body removed at the time of the autopsy as may, in his opinion, be necessary... to the inquiry into the case... ."

72. See note 10 supra.

73. HAWAII REV. STATS. § 715-14 (1968).
examiner the authority to retain tissues removed during the course of an autopsy. This tissue is to be used for scientific investigation,\textsuperscript{74} an area which includes transplantation.

Similarly, section 7115 of the California Health and Safety Code provided that those who were authorized to grant an autopsy could authorize the removal of tissue for transplantation. When this section was read with California Health and Safety Code section 7113, it appeared to give to the coroner the authority to take tissue for transplantation.\textsuperscript{75} Apparently this did not meet with the approval of the California legislature, for the section has recently been repealed.\textsuperscript{76}

With the rapid development of medical science in the field of transplantation, all but two states\textsuperscript{77} have enacted statutes containing specific provisions for the antemortum donation of all or part of the body.\textsuperscript{78} Even in the states with specific provisions, however, donation statutes are not sufficiently clear to avoid the many uncertainties of the common law and to permit, freely and easily, the donation of organs. The need for ideal donation statutes became obvious in the early 1960's. It was apparent that the individual should have the power to donate organs prior to death, that the next of kin should have the authority to donate, and that conflicts between the donor and the next of kin must be avoided. The purposes for which the donation of organs could be made must be clearly stated and the mechanism of the donation should be by will, gift, cards, or other written documents. With the increased public awareness of the need for laws relating to transplantation of organs and procurement of tissues from cadavers, and with the need to protect doctors engaging in transplantation, legal activity quickened and uniformity in state laws became essential.

The Commissioners on Uniform State Laws met in a national conference in August, 1967, and by July, 1968, the Uniform Anatomical Gift Act was drawn up and approved. The act has been approved by the American Bar Association and the Medical-Legal Liaison Committee of the American Medical Association. A copy of the Uniform Anatomical Gift Act is appended.\textsuperscript{79}

\textsuperscript{74} Id.
\textsuperscript{75} This fact was first noted in Sadler & Sadler, Transplantation and the Law: The Need for Organized Sensitivity, 57 GEO. L.J. 5, 16 (1968).
\textsuperscript{76} CAL. HEALTH & SAFETY CODE § 7115 was added by Cal. Stats. 1957, ch. 933, § 2, at 2145. It was repealed by Cal. Stats. 1968, ch. 926, at 1759.
\textsuperscript{77} The two states are New Hampshire and Utah. See Appendix A.
\textsuperscript{78} See Appendix B.
\textsuperscript{79} See Appendix C.
B. The Act Itself

The Uniform Anatomical Gift Act is designed to facilitate the donation of human tissues and organs for transplantation through the establishment of a favorable legal environment for such scientific activities. Organs can be procured from either living or dead donors. The informed consent of the living donor, however, is implicit in the donation of an organ. If the donation of an organ occurs after death of the donor, the law has been drafted to recognize: (1) The wishes of the deceased; (2) the wishes of the surviving spouse or next of kin; (3) the need for organs and tissues for maintaining life in suitable recipients, and (4) the need for establishing the cause of death and time of death under specific circumstances which would facilitate donation of organs.

The Uniform Anatomical Gift Act makes an effort to provide common national laws governing thirteen essential points involved in the donation of organs, serving as an excellent model for uniform state legislation. The important provisions of the Uniform Anatomical Gift Act are developed below.

1. Individual Authority to Donate

The Act specifically provides that "[a]ny individual of sound mind and 18 years of age or more may give all or any part of his body for any purposes specified in Section 3, the gift to take effect upon death." This antemortem donation authority, not found in the common law, is the core of the donation statute. The proposed age limit would provide a uniform standard rather than the great diversity found in present state statutes.

2. Next of Kin Authority to Donate

The right of next of kin to donate all or part of the deceased's body is explicitly stated and a definite priority among those individuals comprising the next of kin is provided. This places the authority to donate in the hands of the individual most properly concerned and pro-

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80. Uniform Anatomical Gift Act § 2(a) [hereinafter referred to as Gift Act].
81. Ad Hoc Committee on Medical-Legal Problems, A Report to the Committee on Tissue Transplantation 5 (Division of Medical Sciences, National Research Council, June 6, 1968).
82. See Appendix B.
83. Gift Act § 2(b).
84. Id.
vides a natural progression of the power to insure that doctors will have a source of permission for the transplantation of a needed organ. This provision is a major improvement over existing statutes since adequate next of kin provisions appear in only 13 state statutes.  

3. Possible Conflict Between Donor and Next of Kin

The Uniform Act provides that the donation by the deceased is paramount to the wishes of the next of kin, and conflicts between next of kin are resolved by classification of priorities, the foremost of which belongs to the surviving spouse, if there be one.  

The existing statutes in a few jurisdictions provide for such conflicts. The language of the Uniform Act is clear, thus avoiding possible controversy and resulting uncertainty in the minds of attending physicians.

4(a). Possible Donees

The Uniform Act expressly lists persons who may become donees. Permissible donees under the Act include tissue banks, specified persons, hospitals and accredited medical and dental schools, while existing state statutes demonstrate considerable diversity concerning possible donees. Such conflicts of law should be avoided.

4(b). Obligations of the Donee

The Uniform Act provides:

The donee may accept or reject the gift. If the donee accepts a gift of the entire body, he may, subject to the terms of the gift, authorize embalming and the use of the body in funeral services. If the gift is of a part of the body, the donee, upon the death of the donor and prior to embalming, shall cause the part to be removed without unnecessary mutilation. After removal of the part, custody of the remainder of the body vests in the surviving spouse, next of kin or other persons under obligation to dispose of the body.

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85. These states are California, Indiana, Iowa, Kansas, Kentucky, Maryland, Nebraska, Nevada, New Jersey, Oregon, Rhode Island, Virginia, and Washington. The District of Columbia also provides an order of priority. See Appendix B. This list does not include those states which have adopted the Gift Act. See note 104 infra.
86. Gift Act § 2(b).
87. Those states are Alabama, Alaska (eyes only), Arkansas, California, Connecticut, Florida, Hawaii, Mississippi, Missouri, Nebraska, Nevada, New Jersey, Ohio, Oregon, Pennsylvania, Rhode Island, Tennessee, Washington, and Wisconsin. See Appendix B. This list does not include those states which have adopted the Gift Act. See note 104 infra.
88. Gift Act § 3.
89. See Appendix B.
90. Gift Act § 7(a).
While it is generally acknowledged that the named donee should be under no obligation to accept a gift, the statutes in most states are silent on this point.91

5. Purposes for Which Donations Can Be Made

Section 3 of the Act provides the purposes for which gifts can be used. The purposes include medical or dental education, research, advancement of medical and dental science, therapy and transplantation.92 It is interesting to note that in this regard, the Uniform Act is not as permissive as the existing statutes in several states;93 under the Connecticut statute, the donation of any structure or organ can be made for therapeutic or scientific uses.94

6. Mechanisms of Gift

The gift may be made by will, and such gift is effective immediately upon death without waiting for probate.95 If there is no will, any written instrument is valid if witnessed by two persons.96 To aid rapid identification of a potential donor, the Uniform Act provides that a properly executed card, carried on the person, is a suitable legal document for donation of organs under appropriate circumstances.97 Finally, recorded telephonic or telegraphic consent by the properly authorized next of kin is legally acceptable under the Act.98

7. Revocation or Amendment of Gift

The donor may amend or revoke the gift of an organ at any time up to his death by one of six methods, including an oral statement witnessed by two persons.99 Adequate provisions for amending or revoking such gifts are lacking in most state statutes.100

91. States which mention this are Hawaii, Maryland, and Wisconsin. See Appendix B.
92. GIFT ACT § 3.
93. See, e.g., California, Connecticut, Indiana, Iowa. Appendix B.
95. GIFT ACT § 4(a).
96. GIFT ACT § 4(b).
97. Id.
98. GIFT ACT § 4(e).
99. GIFT ACT § 6.
100. Only Kansas and Maryland provide sufficient language. See Appendix B.
8. **Protection from Liability for Physicians and Others Acting in Accordance with the Statute**

    The Act provides that "[a] person who acts in good faith in accord with the terms of this Act, or under the anatomical gift laws of another state [or a foreign country] is not liable for damages in any civil action or subject to prosecution in any criminal proceeding for his act."\(^{101}\) Thus protection is extended beyond the physician to all who act in accordance with the statute.

9. **Conflicts of Laws**

    Since state statutes vary greatly, conflicts of laws are very likely; but under the Uniform Act, in the event of a conflict of interest between current state laws, the physician is protected from liability if he acts in good faith and in accordance with the terms of either of the state laws.\(^{102}\)

10. **Time of Death**

    The Uniform Act does not attempt to state a definition of death. It merely states that: "[t]he time of death shall be determined by a physician who attends the donor at his death, or, if none, the physician who certifies the death. This physician shall not participate in the procedures for removing or transplanting a part."\(^{103}\) The definition of death will be discussed in more detail below.

    The Uniform Anatomical Gift Act certainly provides a desirable model for reform of present statutes relating to the donation of organs for transplantation or other medical purposes. Each state will have to consider the Act in legislative sessions and decide whether or not to adopt it.\(^{104}\) Adoption of the Uniform Anatomical Gift Act by all state legislatures would be beneficial to both lawyers and physicians, as well as the general public, in making possible progress in organ transplantation. The Act is consistent and favorable; it is morally and ethically sound and affords the mechanism for transplantation of organs with suitable protection from criminal or civil suits to all parties involved.

    There are, however, two serious defects in the Act. First, the Act still requires for gift of the organ informed consent either by the live

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101. Gift Act § 7(c).
102. Id.
103. Gift Act § 7(b).
104. The Uniform Anatomical Gift Act has recently been adopted, with few changes, in the following states: Idaho, Louisiana, Montana, New Mexico, North Dakota, Oklahoma, South Dakota, Vermont, and Wyoming. See Appendix B.
patient or by the next of kin. This is too restrictive a requirement in
light of the present need for transplantable organs. The number of in-
dividuals awaiting transplantation far surpasses the number of organs
likely to be secured through informed consent and legal donations.
Ideally, statutes should provide that cadaver organs may be removed
whenever they can be used to save human life, even over the objection
of the deceased or of the next of kin. Furthermore, as has been pre-
viously proposed, provision should be made for routine removal of
cadaver organs unless, before removal, the physician is notified that the
deceased or next of kin had specifically objected to the donation of an
organ. Writers in this area feel that the great value of cadaver organs
in the preservation of human life dictates that the burden of action be
shifted from the physician to the dead donor or his next of kin because
the saving of human life is the first and most important principle
of medical ethics. It is submitted that the draftsmen of the Uniform
Anatomical Gift Act gave last priority to this first rule of human exist-
ence.

Secondly, the gift approach, found in section 4 of the Act, is en-
tirely unrealistic in light of present human need for organs. Only about
25 percent of the persons who die leave wills, and most of these are far
beyond middle age. The most likely source for organs will be young
persons who die of brain injury or sudden heart attacks but rarely do
these individuals have a will. Securing organs from young individuals
under the Act not only requires a clear definition of the time of death,
but also demands informed consent of the next of kin at a time when
the injured is "dead cerebrally," but alive from the standpoint of kidney
or cardiac functions. The Uniform Anatomical Gift Act is a sound be-
ginning; but a better solution will be required if we are to save the
lives of thousands still dying for lack of a transplantable organ.

The Act leaves unsettled the important questions of the determi-
nation of the time of death, the need for quality control in organ trans-
plantation through tissue typing, and the unrestricted transportation
across state lines of organs or individuals involved in transplants. The
Act also fails to clarify the issue of who shall receive the transplanted
organ. Since the total number of organs available through gifts is al-
most certain to be far less than that required for recipient needs, this is

105. Sanders & Dukeminier, Medical Advance and Legal Lag: Hemodialysis
106. Id.
107. Id. at 413.
a most crucial weakness. The authority of the medical examiner or coroner, who has jurisdiction over the victims of fatal accidents and patients not under medical care prior to death, to release organs for transplantation is still unclear; but his authority in most states is limited to performing an autopsy and does not include the donation of organs for transplantation.\(^{109}\) It is possible, therefore, for a conflict to arise between the coroner and the next of kin with respect to donation of organs. The Uniform Anatomical Gift Act does not permit voluntary donation of organs by the coroner, but states that the coroner remains subject to the autopsy laws of each state. Such a conflict could deny access to much needed organs. If uniform statutory provisions are to solve the legal problems inherent in transplantation, then such questions must be satisfactorily answered.

**IV. The Definition of Death**

**A. Determination by the Medical Community**

A central issue, touched upon only briefly in the Uniform Anatomical Gift Act,\(^{110}\) is the definition of the time of death. If the prospect for successful function of the transplanted organ in the recipient is to occur, the definition of death is crucial. This is particularly so for the transplantation of unpaired organs, such as the heart, where a live, beating organ must be transplanted into the recipient. The majority of heart and liver donors are young healthy individuals who have sustained major trauma rendering them unconscious. At that time a conflict develops between the wishes of the injured party, the next of kin, the physician, and the possible recipient regarding transplantation of an organ. Informed consent under these circumstances is impossible for the donor. Careful studies conducted by physicians and psychologists have shown that under these trying emotional circumstances, consent, or the lack of it, on the part of the next of kin is hardly a logical and rational process. It is submitted that a more reliable safeguard is provided by the presence of an informed, conscientious and responsible investigator. Informed consent for the donation of live organs often requires a clear, public understanding of the nature and time of death. The definition of death has been the focus of major interest for both the patient who desires to receive a live organ transplant, and the physician who is striving to save the life of the potential recipient.

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110. See Gift Act § 7(b).
Until the era of transplantation, death was something that everyone recognized and no one needed to define. The standard definition of death which satisfied everyone was “[s]uspension or cessation of vital processes of the body, as heart beat and respiration.” Traditionally, the doctor would feel for the pulse, listen for the heart beat, check for respiratory movements, stimulate the individual in an effort to arouse consciousness or some type of motor or sensory response, and in the absence of any of these observable evidences of life, he would pronounce the patient dead. Clearly, death was so unmistakable it did not require a legal decision.

However, the recent ability of doctors to control the functions of organs by external devices, over which the patient has no control, has altered the entire concept of death. In former days, the patient was either alive or dead, depending upon vital forces operating only within his body. If the heart stopped, he was dead; if respiration stopped, he was dead; and if brain function stopped, heart and lung function generally stopped immediately thereafter, and death was evident. Death was a rapid continuum beginning with one vital organ, progressing rapidly throughout the entire body so that its presence was unmistakable. Nowadays, external devices can supplant vital organ functions and death must be defined in social and moral terms, as well as purely physical terms. For example, it is commonplace for surgeons working on the heart to stop the beating of the heart for “prolonged periods” during an operation, in order to permit skilled and refined operations within the heart. The heart can be stimulated to return to normal function either by an electrical impulse, or by a juggling of important electrolytes within the body fluids upon which beating or cessation of the heart depend. A person is certainly not dead in the traditional sense merely because his heart is not beating. Similarly, excellent machines can take over completely the function of respiration, delivering a normal alveolar ventilation to the patient with respect to pressures within the lung and volumes of gases exchanged by the lung, without the person himself making a single respiratory movement. Indeed, many patients in critical condition are “alive” only so long as the respirator is delivering vital gases to their lungs, or electrical wires are pacing the heart beat, but “dead” as soon as the mechanical devices are disconnected from the electrical power sources in the patient’s room.

The modern definition of death must often depend on whether the mechanical devices are minimizing the suffering, or preserving the life of a potentially salvageable individual, or whether they are merely sus-
taining the existence of a hopelessly tortured and essentially destroyed entity.

From the standpoint of the transplant surgeon and recipient the ideal definition of death would be one where the donor is “legally dead,” but his transplantable organs are normally alive and functioning.

For practical purposes, a patient is dead when he is insensate, unconscious, unable to be aware of his surroundings and a hopeless burden to himself and to society. The brain is the most sensitive organ in the body to anoxia, and once the central nervous system tissue has been irreparably damaged it cannot regenerate—nor can brain function be transplanted. Experience has amply demonstrated that many patients with brain damage have no possibility whatsoever of recovery, and society is willing to declare a patient “dead” when there is no possibility of recovery of consciousness. The definition of death, then, has become both a medical and a legal problem; the individual should have a right to dispose of his organs or body; and an equal right to die with dignity. Death with dignity implies that the physician should have the right to disconnect the respirator, or to discontinue the electrical pacemaker in a patient who has no possibility of recovery. The definition of death is no longer a hypothetical problem in view of the tremendous need for live organs for transplantation; therefore, new laws must be written, not only to legally define “death,” but also to permit transplantation of live organs from legally “dead” patients.

Recently developed mechanical techniques for the support of cardiac and respiratory functions have demonstrated a need to revise criteria used in determining death. As a result attention has been focused on “brain death” as a valid indication of real death. “Brain death” implies a permanently functionless brain with complete unreceptivity and unresponsiveness to inner need and externally applied stimuli, and is demonstrated by lack of spontaneous muscular movement, lack of spontaneous breathing, absence of reflexes, a perfectly flat electrocardiogram, and failure of all of the above findings to change or improve over at least a twenty-four hour period. These criteria for death have been extensively studied by Dr. Henry Beecher, Dorr Professor of Research and Anesthesia at Harvard Medical School, and have been termed the “Harvard criteria”: (1) deep unconsciousness with no response to external stimuli or internal need; (2) absence of movement and breathing; (3) lack of reflexes in the body; and (4) a flat or isoelectric electroencephalogram made twenty-four hours apart serving as useful and confirmatory evidence of death.¹¹²

¹¹² Ad Hoc Committee of the Harvard Medical School to Examine the Definition of Brain Death, A Definition of Irreversible Coma, 205 J.A.M.A. 337, 337-38 (1968).
Most everyone now agrees that when the brain is "dead," extraordinary mechanical supports should be discontinued. Indeed, the family of the patient often wishes to terminate the agonizing death watch and welcomes the discontinuance of extraordinary measures, such as artificial circulation and respiration, to keep the patient "alive." The Ad Hoc Committee of the Harvard Medical School emphasized that for "brain death" to be verified even the most intensively painful stimuli should not evoke any vocal or other response from the unreceptive and unresponsive patient. The Committee lists several tests to be used in establishing an irreversible coma. Observations for at least an hour should be made to insure that there is no spontaneous muscular movement, no spontaneous respiration, and no response to stimuli such as pain, sound, or light. If the patient is on a mechanical respirator, it should be turned off for three minute intervals in an effort to ascertain whether or not spontaneous respiration will occur. An electrocardiograph should be run properly and at least ten full minutes of recording should take place before the electrocardiogram is pronounced flat. Furthermore, the patient should not be under hypothermia or sedation at the time the flat electrograph is recorded. The Committee further advised that the decision of death should be made and declared by the physician with the agreement of the family prior to turning off the respirator.

It should be emphasized that the decision at the time of death is a medical decision. Before mechanical supportive devices are disconnected, death is declared by the physician in charge, preferably in consultation with one or more additional physicians directly involved in the case. It is both unsound and undesirable to force the family to make the decision.

If transplantation of an organ is involved, the Uniform Anatomical Gift Act states that the time of death must be determined by the physician who attends the donor at his death, or, if none, the physician who certifies the death. The act further provides that the physician who determines the time of death must not participate in the removal or transplantation of the organ. It is generally agreed that death must be declared prior to discontinuation of resuscitative measures—that is, death must be declared and then the respirator turned off.

113. Id. at 337.
114. Id. at 337-38.
115. Id. at 338.
116. Gift Act § 7(b).
117. Id.
B. Determination by the Legal Community

Medical opinions concerning the definition of death are still subject to legal contestation, for the exact time of death often becomes an important issue in the disposition of the property belonging to the individual who has died. The traditional definition of death has been: "The cessation of life; the ceasing to exist; defined by physicians as a total stoppage of the circulation of the blood, and a cessation of the animal and vital functions consequent thereupon, such as respiration, pulsation . . . ."\textsuperscript{118}

In recent decisions involving the definition of death, courts have clung to the concept of the total cessation of all vital signs as the legal definition of death.\textsuperscript{119} Three cases are particularly noteworthy. In \textit{Thomas v. Anderson}\textsuperscript{120} two men, who were joint tenants of certain real property, died within an hour of one another. The plaintiff claimed that there was insufficient evidence to support a finding that the two deaths were not simultaneous. He further claimed that simultaneous, under section 296.2 of the Probate Code, means substantially or approximately at the same time. In response, the court said, "death occurs precisely when life ceases and does not occur until the heart stops beating and respiration ends. Death is not a continuous event and is an event that takes place at a precise time."\textsuperscript{121}

In the later California case of \textit{Estate of Schmidt},\textsuperscript{122} the appellate court restated with approval the lower court's discussion of the time of death:

\begin{quote}
Medical opinion in this case varied as to when death occurred. In the opinion of the medical experts death might be the inability to resuscitate or an irreversible coma. However, for purposes of this decision this Court considers death as defined in Black's Dictionary, Third Edition: "as the total stoppage of the circulation of the blood and cessation of the animal and vital functions of the body such as respiration and pulsation."\textsuperscript{123}
\end{quote}

In the case of \textit{Smith v. Smith},\textsuperscript{124} a husband and wife were involved in an auto accident. The husband was found dead at the scene of the accident, and the wife was taken unconscious to the hospital and

\begin{itemize}
\item \textsuperscript{118} BLACK'S LAW DICTIONARY 488 (4th ed. 1951) (emphasis added).
\item \textsuperscript{119} Smith v. Smith, 229 Ark. 579, 317 S.W.2d 276 (1958); Estate of Schmidt, 261 Cal. App. 2d 262, 67 Cal. Rptr. 347 (1968); Thomas v. Anderson, 96 Cal. App. 2d 371, 211 P.2d 478 (1950); Schmit v. Pierce, 244 S.W.2d 120 (Mo. 1961).
\item \textsuperscript{120} 96 Cal. App. 2d 371, 215 P.2d 478 (1950).
\item \textsuperscript{121} Id. at 376, 215 P.2d at 482.
\item \textsuperscript{122} Estate of Schmidt, 261 Cal. App. 2d 262, 67 Cal. Rptr. 347 (1968).
\item \textsuperscript{123} Id. at 273, 67 Cal. Rptr. at 854.
\item \textsuperscript{124} 229 Ark. 579, 317 S.W.2d 275 (1958).
\end{itemize}
remained in coma caused by brain injury. She died in the hospital 17 days later. The petitioner argued that the two people died simultaneously, but the Arkansas Supreme Court, relying on Black's definition of death, ruled that the petition must be dismissed as a matter of law. The court stated:

Admittedly this condition did not exist and as a matter of fact it would be too much of a strain of credulity for us to believe any evidence offered to the fact that Mrs. Smith was dead scientifically or otherwise, unless the conditions set out in the definition existed.125

They added: "Likewise, we take judicial notice that one breathing though unconscious is not dead."126 The Arkansas court felt that there was no need to prove uncontroverted facts. Dismissal prevented prolongation of the trial by unnecessary proof and perpetration of fraud upon the court by quasi-scientists called into court to controvert settled scientific principles. The Arkansas Supreme Court thus considered the definition of death to be a settled scientific and observable biological fact.

While the legal and medical situations surrounding death might be different, in each instance the exact time of death is determined by a physician. Under most circumstances, the legal definition of death may be satisfactory; but it would certainly appear reasonable to adopt the medical definition in cases involving irreversible coma. There will be rare legal cases in which two individuals will be rendered unconscious at the same time, both will lapse into irreversible coma, and both will inevitably die. In situations of this type the exact moment of death will be determined by the physician and inheritance may be determined according to who is pronounced dead first. Special court rulings might be necessary in these rare situations to determine the inheritance by relatives of the deceased parties.

A legal definition of death is important for determination of legal rights. Death, however, should not be based on some dictionary definition, but on scientific criteria used by physicians. Such a definition is properly a medical rather than a legal problem, and if death is to be redefined, it is the physician who must do it.

125. Id. at 586-87, 317 S.W.2d at 279.
126. Id. at 589, 317 S.W.2d at 281.
### Appendix A*

**Donation Statutes**

Schematic Overview of Donation Statutes and the 13 Most Important Provisions

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Appendix B*

Existing Donation Statutes—Analysis by Jurisdiction

Each jurisdiction is discussed below in alphabetical order as to its treatment of, and by reference to, each of the following provisions:

1. Individual authority to donate.
2. Next of kin authority to donate.
3. Possible conflict between wishes of the donor and the next of kin.
4. Donees.
5. Purposes for which donations can be made.
7. Mechanism of gift—Other written instruments.
8. Mechanism of gift—Cards.
9. Mechanism of gift by next of kin—Recorded telephonic consent.
10. Revocation or amendment of gift.
11. Protection from liability for doctors and others acting in accordance with the statute.
12. The problem of conflicts of law.
13. The time of death.

ALABAMA


1. Any person, 21 years of age or more, of sound mind, and an inhabitant of this state may donate all or part of his body.
3. Any person, firm, association, or corporation who interferes with the disposition of the body according to a donation is guilty of a misdemeanor.
5. Donation may be made for the advancement of medical science, the replacement of diseased or worn out parts of other humans, or the rehabilitation of human parts or organs.
7. Donation may be accomplished by an instrument in writing, executed as a deed, and filed for record in the office of the judge of probate of the county of the donor's residence or of the county in which the donor is confined in a hospital.
10. Revocation is permitted by filing a similar written instrument in one of the two places mentioned above, provided it is filed before the donor's death.

ALASKA

Alaska Stat. § 13.05.035 (1962) (authority provided for eyes only).

1. A person of legal age and sound mind and a resident of this state may donate his eyes.
3. The donated eyes are to be removed by a licensed physician after the donor's death with no consent of the donor's heirs or devisees being required.
4. Donation may be made to a person or a hospital.
7. Donation may be made by written instrument.

* By permission of the Georgetown Law Journal, Appendix B is partially reprinted from the article Transplantation and the Law: A Need For Organized Sensitivity, by Alfred M. and Blair L. Sadler, 57 Geo. L.J. 1, 34-54 (App. C) (1968). Extensive revision has been required, however, to reflect recent legislative activity in the field of tissue and organ transplantation.
ARIZONA
ARIZ. REV. STAT. ANN. §§ 36-841 to -845 (1956).

1. Any person who may make a will is permitted to direct the disposition of the whole or any part of his body.

4. Donees may include any teaching institution, university, college, the state department of health, a facility designated by the Anatomy Board of Arizona, a legally licensed hospital, or agency operating a tissue, eye, bone, cartilage, or blood bank. Provision is made for the nondesignated donee.

5. Donations may be made for the purposes of medical science and the rehabilitation of the maimed.

6. Donations may be made by will.

7. Donations may be made by a signed and acknowledged instrument. A gift made by will, codicil, or other signed and acknowledged written instrument shall become effective immediately upon the death of the donor or testator.

11. A person, association, or corporation shall not be subject to liability for any act performed in carrying out instructions of the donor or testator as to disposal of his body for the purposes specified in the act.

ARKANSAS
ARK. STAT. ANN. §§ 82-408 to -410 (1960); §§ 82-410.1 to -410.3 (Supp. 1967).

1., 3., 5., 7., and 10. Same as ALABAMA, supra.

7. The only appreciable difference is that Arkansas does not require the instrument to be "executed as a deed."

CALIFORNIA
CAL. HEALTH & SAFETY CODE §§ 7100, 7113, 7150-58
CAL. PROB. CODE § 20.

1. Any person of 18 years and of sound mind may donate.

2. Next of kin may also donate according to a priority, included in the statute.

3. The person(s) otherwise entitled to control the disposition of the remains under the provisions of this section shall faithfully carry out the directions of the decedent, subject only to the duties of the coroner.

4. A teaching institution, university, college, legally licensed hospital, licensed physician or surgeon, the State Director of Public Health, or any nonprofit blood bank, artery bank, or other therapeutic service operated by an agency approved by the Director of Public Health may become a donee.

10. Revoked by execution and delivery to donee of a signed revocation, oral revocation, witnessed by two people, death bed revocation made to his physician, by a card carried on donor's person revoking the gift, or revoking the will in which the gift was made.

11. Those proceeding within the provisions of this statute shall not be held liable in any civil action.

13. Time of death is determined by the attending physician.

COLORADO
COLO. REV. STAT. ANN. § 91-3-9 (1964).

1. A person may provide for the disposition of all or any portion of his body upon death.

7. Donation shall be by written consent.

11. No cause of action for damages shall accrue to any person arising out of the removal of all or any portion of the body of a deceased, provided said person had no actual knowledge of any revocation of such consent.
CONNECTICUT

1. Any person of 21 years and of sound mind may donate all or part of his body.

3. The next of kin, or other personal legally in custody of the body, shall carry out the direction of the decedent and notify the donee.

4. Any hospital or medical institution approved by the Commissioner of Health may be a donee. When no donee is named, the Commissioner may designate one.

5. Donation may be made for scientific, educational, or therapeutic use. Delivery of the body is prohibited when death results from certain enumerated diseases. Donation of the entire body shall take precedence over donation of any part thereof.

6. A will is a valid mechanism which becomes effective immediately upon death regardless of whether it is ever probated.

7. Donation may be made by any written instrument signed by the donor and witnessed by two competent witnesses.

10. Revocation may be accomplished by an instrument similar to the one used for donation.

11. The proper use of a designated part of the body shall not be the basis for civil liability.

DELWARE

1. Any person 21 years of age or older of sound mind may donate his body or a part thereof.

4. Gifts may be made to an individual, licensed hospital, institution engaged in medical research and advancement, and organ repositories.

5. Donations may be made for the advancement of medical science or transplantation and no other.

7. Donations may be made by written disposition signed in the presence of two witnesses.

10. The only valid means of revocation is by a written instrument signed in the presence of two witnesses.

DISTRICT OF COLUMBIA

1. Any person who, in this jurisdiction, has the capacity to make a will may donate his tissue.

2. Any person having the right to a body for the purpose of burial may donate any tissue from such body. An order of priority is included in the statute. Any such person may make such donation, provided that tissue shall not be removed pursuant to a donation made by any one of such persons designated in this subsection if, before such tissue is removed, any one of such persons shall, in writing, notify the tissue bank which is to remove the tissue that he objects to such removal.

4. Donations may be made to any "tissue bank" licensed under this act. Any physician or hospital validly operating a tissue bank shall have full authority to take the tissue so donated and use the same for the purposes enumerated.

5. Any person who donates his tissue may, but shall not be required to, designate the purpose for which his tissue is to be used.

6. Donations may be made by a will or codicil, becoming effective immediately upon the death of the testator or donor and constituting the authority for any physician or hospital to operate a tissue bank to remove said tissue.

7. Donations may be made by any written statement, signed by the donor and witnessed by two persons of legal age, and shall be liberally construed to effectuate the intent and purpose of the person desiring to donate. If any one of the specified next
of kin donate tissue by a written statement, such statement shall be signed by him and similarly witnessed.

FLORIDA

FLA. STAT. ANN. §§ 245.11-.12 (1961); §§ 736.08-.18 (1964).

1. A person may donate any part of his body. A person of sound mind who dies within the state may leave his body to the anatomical board by will.

3. No consent or permission from the personal representative or the heirs of the deceased is required.

4. Donation can be made to any state, county, or district hospital or medical school, private hospitals, eyebanks, body banks, or to a specific beneficiary. Specific provisions are included which deal with the open-ended donation and the unavailable donee. The trustee of a trust may also be a valid donee.

5. Donation can be made to the anatomical board to provide material for study in medical schools, dental schools, and teaching hospitals; for eyesight restoration purposes; for grafting or transplantation; or for experimentation and scientific research purposes.

6. Donation can be made by last will and testament or codicil. Subsequent probate shall not affect the validity of the donation.

7. Any written instrument is a valid instrument. No witness is required and no particular wording is necessary.

8. A wallet sized card is a valid instrument. A model form is included.

10. Revocation is specifically provided for only when the bequest is made to a trustee.

11. No liability shall result against any bank, hospital, medical school, physician, or surgeon who acts under the provisions of this act.

GEORGIA

GA. CODE ANN. §§ 88-2001 to -2009 (Supp. 1968) (authority provided for eyes only).

1. Any person of legal age and sound mind may donate his eyes.

2. The surviving spouse or all of the immediate next of kin may donate.

4. Donees include nonprofit eyebanks or institutions or persons operating or working in such institutions.

5. Purposes include sight preservation or restoration and medical education or instruction.

7. Donation shall be made by a written instrument which shall designate the donee eyebank. It must be signed by the donor in the presence of two witnesses and must be filed with the parties maintaining the donee eyebank.

10. Revocation may be executed in a manner similar to donation with the donee eyebank acknowledging receipt of the revocation instrument within a period of ten days following its receipt.

11. No civil or criminal liability shall accrue to persons proceeding in accordance with the act's provisions.

HAWAII

HAWAII REV. STAT. §§ 327-1 to 327-8, 327-21 to 327-24 (1968).

1. Every person of testamentary capacity may provide for the disposition of his body after death.

3. The persons or persons otherwise entitled by law to control the disposition of a decedent's body shall faithfully carry out the directions of the decedent.

4. Donations may be made to a university, hospital, or institution within the state authorized to teach or conduct research in medicine, anatomy, or surgery, or having a medical preparatory or medical graduate course of instruction. A donee may refuse the gift under specified circumstances.
5. The donee shall use the donated parts solely for the purpose of teaching and research to promote medical science and education, including the retention of such material as may be needed for such purpose. This would not appear to include transplantation or other purely therapeutic purposes.

6. Donations may be made by will. The directions of the testator shall be immediately carried out regardless of the validity of the will in other respects or of the fact that the will may not be offered for or admitted to probate until a later date.

7. Donations made by a written instrument other than a will shall be witnessed by two persons and provide for written consent to the donation by specified persons. No particular words shall be necessary, and a donation shall become effective immediately upon the death of the donor.

10. A donation may be revoked by the donor at any time prior to his death by the execution of a subsequent written instrument.

11. A university, hospital, or institution to which a body is donated or any agent, officer, or employee of such shall not be liable for any damage or subject to criminal prosecution for using the body or parts thereof for teaching or scientific research purposes.

IDAHO


Idaho has adopted the Uniform Anatomical Gift Act in its entirety.

ILLINOIS


1. Every person of testamentary capacity may donate all or part of his body.

4. A charitable, educational, or research institution, university, college, State Director of Public Health, State Director of Public Welfare, legally licensed hospital, or any other organization intended and equipped to distribute human bodies or parts thereof for the purposes expressed in this act may receive such a gift.

5. The donor may designate the purpose of the gift or may use the gift as he sees fit.

6. Donation by will becomes effective immediately upon the death of the donor.

7. Any written instrument signed by the donor in the presence of two or more credible witnesses also is valid.

11. No person acting in good faith pursuant to the direction of the instrument and without knowledge of a subsequent revocation shall be liable for such actions.

INDIANA


1. Every person of testamentary capacity may give the whole or any part of his body.

2. Section 63-603 provides that any duly incorporated medical or dental college, or any duly licensed physician or surgeon shall not be prevented from acquiring, by gift or otherwise, from persons having lawful authority to dispose of the same, the dead body of any human being for the purpose of post-mortem examination, dissection, or other scientific use. Although this is hardly a donation clause and the term "scientific use" is very general, a broad reading of this section might allow donation for medical purposes by the persons having lawful authority to dispose of the deceased.

4. Donees may include the State Anatomical Board or any college or university, or other person, corporation, association, or agency, public or private, which is willing and equipped to receive and to use the donated body for the enumerated purposes.

5. Donation by the decedent is valid for scientific, educational, therapeutic, or medical use or for other similar uses.

6. Donation by will becomes effective immediately upon the death of the donor.
7. Any written instrument, if signed by the donor in the presence of two witnesses and then signed by those witnesses, shall be a valid donation mechanism.

11. No person acting in good faith within the provisions of this act shall be subject to liability unless he has knowledge that said donation has been revoked.

IOWA

IOWA CODE ANN. § 142.12 (Supp. 1968).

1. Every inhabitant of this state of the age of 21 years or more and of sound mind may donate all or any part of his body within the provisions of this act.

2. The person(s) having the right to a body for burial may consent to such use of the body or parts thereof.

5. Donation may be made for the purpose of scientific use, or for other advancement of medical science, or for the replacement or rehabilitation of diseased or worn out parts or organs of other humans.

6. A will shall be a valid donation instrument.

7. Donation may also be made by a written instrument executed in the same manner as a deed.

10. Revocation may be accomplished in a manner similar to the original donation.

KANSAS


1. Any individual who is competent to execute a will may give all or any part of his body.

2. See Act §§ 2(b) & (c).

4. See Act § 3.

5. See Act § 3.


7. and 8. See Act § 4(b).

10. See Act § 6.

11. See Act § 7(c).

12. This problem is largely alleviated by the protection provision which applies to "the terms of a gift under this act, or any similar act."

13. The time of death shall be determined by the physician in attendance upon the donor's terminal illness or death; he shall not be a member of the team of surgeons which transplants the part to another individual. Compare Act § 7(b).

KENTUCKY


1. Any person in the Commonwealth of the age of 21 years or more and of sound mind may make a gift, grant, or bequest of all or parts of his body.

2. The persons having the right to a body for burial may likewise consent to such use of the body or part thereof as set forth in this statute. An order of priority is included.

4. Acceptable donees include any professor, medical school, or college, or any responsible person or group of persons, natural or corporate, whom the State Board of Health finds is equipped to properly carry out the purposes of this act.

5. Included among purposes are educational or scientific study and transplantation.

6. Donation may be executed by will.

7. Donation may be made by a written instrument executed in the presence of at least two attesting witnesses.

10. Revocation can be accomplished in the same manner as the original legacy or grant.
LOUISIANA
LA. REV. STAT. § 17.2351-.2359 (Supp. 1969).

1. Any person who is competent to make a will may donate.
2. Next of kin may also donate according to a priority, included in the statute.
3. The body or body part may be used in accordance with the terms of the donation immediately upon the death of the donor and without order of court or authorization by next of kin, or any other person.
4. Donees may be any hospital, surgeon, physician, medical or dental school, an organ repository, or an individual.
5. Donations may be made for medical or dental education, research, advancement of medical science, therapy or transplantation.

MAINE

Section 2881 provides that if any resident of the state requests or consents that after death his body be delivered to a regular physician or surgeon for the advancement of anatomical science, it may be used for that purpose, unless some kindred or family connection makes objection. This authority is thus narrowly circumscribed in purpose and is not valid without approval of next of kin.

The donation authority presented in § 2889 provides for the donation of eyes only.

1. A person of legal age and sound mind has the right to direct the manner in which his eyes shall be disposed of after his death.
4. A donee may be an individual, hospital, institution, an agency engaged in sight restoration or a bank maintained for the storage, preservation, and use of human eyes or parts thereof. The donee need not be designated.
5. Donation can be made for the advancement of medical science or for the replacement or rehabilitation of diseased eyes or wornout or injured parts of the eyes of living human beings.

7. Authorization for donation shall be by written instrument signed by the donor and witnessed by two persons of legal age. No particular form or words shall be required, provided that the instrument conveys the clear intention of the purpose of the donor.

10. The gift may be revoked in a manner similar to the original grant.
11. The donee or physician shall not be liable civilly or criminally for removing eyes under authorization valid within the terms of this act.

MARYLAND
MD. ANN. CODE art. 43, §§ 149H-S (Supp. 1968).

1. Any person who is over 21 years of age and competent to execute a will may donate all or any part of his body.
2. See ACT §§ 2(b) & (c).
4. and 5. See ACT § 3.
7. and 8. See ACT § 4(b).
9. If the gift is by next of kin designated in the act, it shall be by written or telegraphic consent.
10. See ACT § 6.
11. See Act § 7(c).

12. A document of gift executed in another state and in accord with the laws of that state thereunto pertaining or executed in a territory or possession of the United States under the control and dominion of the federal government and in accord with a federal law, shall be deemed valid as a document of gift within this state.

13. The time of death shall be determined by the physician in attendance upon the donor's terminal illness or certifying his death, and said physician shall not be a member of the team of physicians which transplants the part of another individual. Compare Act § 7(b).

**MASSACHUSETTS.**

MASS. ANN. LAWS ch. 113, §§ 7-10 (Supp. 1969).

1. Any person who has attained the age of 21 years may make a gift of his tissue or organs, to take effect prior to embalmment of his body.

4. Donees include any hospital, entity organized for the purpose of collecting or storing human tissue or organs, or medical school licensed by the Commonwealth. A provision dealing with the open-ended donation is included. Except in the case of a gift of the entire body, the donee shall have 24 hours following the death of the donor to remove the part(s) of the body given to the donee; and thereafter, whether or not the donee has so acted, the donor's body may be claimed by the person(s) otherwise entitled thereto. The provisions of this section shall in no way prevent the final interment of any human body.

5. Gifts may be made for medical or scientific research, for the dissemination of information relative thereto, for transplantation to living persons, or for the promotion of anatomical study and teaching.

6. Gifts made by will, if signed by the donor and witnessed by three persons, are valid whether or not the will is offered for probate.

7. Donations may be made by a written instrument signed by the donor and witnessed by three persons. No "instrument shall be effective . . . unless a certificate of a registered physician is attached thereto to the effect that at the time said donor signed said instrument the donor was, in the opinion of said physician, of sound mind and not under the influence of narcotic drugs." An agent, servant, or employee of the donee shall be disqualified from witnessing any such instrument.

10. An instrument of gift may be revoked by destruction by the donor or by a written instrument of revocation signed by the donor, which need not be witnessed.

11. Whoever, in good faith relies upon an instrument purporting to make a gift, delivers the tissue, organs, or whole body or any part of a donor to a donee shall not be liable for having made such delivery.

**MICHIGAN**

MICH. COMP. LAWS ANN. § 328.251-.257 (1967).

1. Any person of full age and sound mind may donate all or any part of his anatomy.

4. Any medical or educational institution or any person may be a donee.

5. The donor can specify any purpose; if no purpose is specified, the donee can use the body part for any medical or educational purpose.

7. Donation may be made by written instrument signed by the donor in the presence of two competent witnesses who shall also sign the instrument. The written instrument shall be retained on file with the donee, who shall produce the same upon demand of any interested person at the time of the donor's death.

10. The donor may revoke the gift by demanding return of the written instrument and any copies thereof.

11. Any licensed medical practitioner or medical or educational institution who
removes the part designated shall not be liable for damages in a civil suit for removal of the part.

MINNESOTA

MINN. STAT. ANN. § 525.18 (1969).

1. Every person of sound mind, not a minor, may dispose of the whole or any part of his body.
4. Donations may be made to a teaching institution, university, college, State Board of Public Health, or legally licensed hospital.
5. Donations may be made for the use of one of the above donees or as expressly designated by the donor.
6. Donations may be executed by a will attested and subscribed in the donor’s presence by two or more competent witnesses.

MISSISSIPPI


1. Any person 21 years of age and over and of sound and disposing mind may enter into a contract to donate his eyes, heart, kidney, or other transplantable part of his human body.
3. Any contract entered into under the terms of this act is binding upon the surviving spouse or other heirs of the deceased who have the right under general law to claim his body.
4. Contracts may be made with a qualified hospital or medical school.
5. Contracts may be made for medical science or other medical purposes.
10. Any person entering into “such a contract” may, during his or her lifetime, revoke by written instrument signed by both parties, said contract in its entirely, provided, however, that if any such person has received any monetary consideration for entering into the contract, he shall repay such consideration to those from whom he received it, in full, plus 6% interest from the date of the signing of the contract.

MISSOURI

Mo. ANN. STAT. § 194.190 (Supp. 1968).

1. Any person of sound mind and 18 years of age or older may donate all or any part of his body.
2. Although there is no provision which affirmatively gives the next of kin donation authority, one section provides that no cause of action in tort shall accrue to any person out of the removal or use of a body part, “if the consent of the decedent was given, or consent was given by a person upon whom devolves by law the right to control the disposition of the remains of a deceased person as defined herein . . . .” (emphasis added). This may be interpreted to give donation authority to next of kin.
3. The person legally in custody of the body for burial shall faithfully carry out the directions of decedent.
4. The donee shall be any college, university, licensed hospital, or the State Anatomical Board.
5. The donation may be for scientific, educational, or therapeutic use.
6. A bequest in a will shall become effective immediately upon the death of the donor without regard to whether it is ever offered or admitted to probate.
7. Any writing will suffice and no special words of gift shall be necessary, provided the written authorization is signed by the donor and witnessed by two persons of legal age or acknowledged as is required of deeds to real estate.
10. The gift may be revoked by a similar writing.
11. Provision 2 above provides the basic protection, which is applicable, notwithstanding the invalidity of such consent, if the person relying thereon acted in good faith or had no actual knowledge of the revocation of such consent.
MONTANA

Montana has adopted the Uniform Anatomical Gift Act with some modification. The most significant for the purposes of this paper is the alteration of section 2(a) to provide that a person 18 or older may provide for the disposition of all or any part of his body upon death.

NEBRASKA

Any person may direct the disposition of all or part of his remains.

Those persons having the right to control the disposition of the remains may, when not inconsistent with directions given by the decedent, authorize the removal of any specifically named organ or organs.

The persons entitled to control the disposition of the remains shall faithfully carry out the directions of the decedent.

Donees include a teaching institution, university, college, legally licensed hospital, the Director of Health, or any nonprofit blood bank, artery bank, or other therapeutic service operated by any agency approved by the Director of Health.

If instructions are contained in a will, they shall be immediately carried out, regardless of the adequacy of the will in other respects or of the fact that the will may not be probated until a later date.

Donations may be made orally or by any written instrument.

A funeral director, physician, or cemetery authority shall not be liable to any person(s) for carrying out the decedent's instructions, or the eligible donee for accepting the gift.

NEVADA

A person, prior to his death, may direct the disposition of all or any part of his body.

A relative qualified to authorize an autopsy can also authorize the removal of any structure or organ from any human remains for the purposes described in this statute.

The person(s) otherwise entitled to control the disposition of the remains under the provisions of this section shall faithfully carry out the directions of the decedent.

Donation can be made for the advancement of medical science or for other therapeutic or scientific use.

A will shall be a valid instrument of donation, and tissue removal shall proceed immediately after death, regardless of the validity of the will in other respects.

Donation may also be accomplished by any other written instrument.

No funeral director, physician, or cemetery authority shall be liable to any person for carrying out the instructions of the decedent.

NEW HAMPSHIRE

No applicable statute.

NEW JERSEY

Any person of legal age may direct the disposition of all or any part of his body.

Any person entitled to control the disposition of the remains may direct the disposition of any part or parts of the body of such person.
3. No disposition shall be directed by any person included in provision 2 if he has reason to believe after reasonable inquiry: (a) that the decedent has left instructions for disposition of his body inconsistent therewith; (b) that decedent has expressed objections to such use during his last illness; or (c) that the surviving spouse or any surviving near relative of decedent objects. The person(s) included in provision 2 shall permit the proper execution of such disposition made by the deceased. When the requisite parts of the body have been removed in cases where the disposition of the entire body has not been directed, the remains of such person, not so removed, shall be the responsibility of and shall be under the control of the person having by law the right to disposition thereof.

4. The donee may be, but does not have to be, a government agency, eyebank, teaching institution, hospital, or physician, or a committee or group of physicians or others, to take such action as may be necessary to accomplish said purpose upon his death. The instrument of gift shall be delivered to the person designated therein to carry out the purposes of said instrument.

5. A donation may be made for the advancement of medical science or the replacement or rehabilitation of diseased or worn out organs of similar character of another living person.

7. Donations may be made by written instrument signed by the donor and witnessed by two persons of legal age.

10. An instrument of gift may be revoked only by an instrument similarly executed and delivered to the person to whom the original instrument was delivered, or in whose custody the instrument is at that time.

11. Any person acting or authorizing such action in accordance with the provisions of this act shall not be liable in damages for any action taken in making or carrying out such instrument, unless he shall have actual knowledge of the delivery of an instrument revoking the power contained therein, except for wilful negligence or intentional wrongdoing.

NEW MEXICO
New Mexico has adopted the UNIFORM ANATOMICAL GIFT ACT in its entirety.

NEW YORK

1. Any person 18 years of age or older has the right to direct the manner in which his body shall be disposed of after death. “Body” refers to the whole or any part thereof, including blood.

2. The surviving spouse or next of kin of the deceased, being charged by law with the duty of burial, may authorize dissection for the sole purpose of ascertaining the cause of death or “may authorize dissection for any other purpose.” This section, not part of the rest of the donation statute, would appear to authorize donations by appropriate next of kin for medical research and therapy.

4. A donee may be an individual, a licensed hospital, institution, or agency engaged in the advancement of medical science or the restoration of diseased, worn out, or injured parts of living human beings, or a bank maintained for the storage, preservation, and use of parts of the body. Provisions are made for the open-ended donation and the unavailable donee.

5. Donations may be made solely for the advancement of medical science or for the replacement or rehabilitation of diseased, worn out, or injured parts of the bodies of living human beings.

7. Donations shall be made by written authorization of the deceased made during his lifetime and signed by him in the presence of at least two witnesses, aged 18 or over, who shall also sign the document. No particular form of words shall be neces-
sary, provided that the instrument conveys the clear intention of the donor.

10. Revocation is permitted by a written instrument signed by the donor and witnessed by two persons, aged 18 or over.

11. Any licensed hospital, donee, nurse, or physician who removes body parts pursuant to a valid donation shall not be civilly or criminally liable.

NORTH CAROLINA
N.C. GEN. STAT. §§ 90-216.1 to -216.5 (1965).

1. Any person who may otherwise validly make a will in this state may dispose of the whole or any part of his body.

4. Donations may be made to a teaching institution, university, college, State Department of Health, legally licensed agency or commission operating an eyebank, bone or cartilage bank, a blood bank, or any other bank of a similar nature designated for the rehabilitation of the maimed. The donor may designate the donee. Provisions are made for the open-ended donation and the unavailable donee.

5. The donor may expressly designate the purpose for which his body or part may be used, but such is not necessary. If no purpose is designated, the body or part shall be used in accordance with the intention of the statute.

6. A donation may be made by will and testament or codicil and becomes effective immediately upon the death of the testator. No particular form or words shall be necessary or required, and the donation statement shall be liberally construed to effectuate the donor's intent.

11. Any provision in any will or codicil donating the whole or any part of the testator's body shall become effective immediately upon death. Any donee acting under the authority of said instrument will be protected from liability.

NORTH DAKOTA

North Dakota has adopted the UNIFORM ANATOMICAL GIFT ACT with some modification. The most significant, for the purposes of this paper, is the alteration of section 2(a) to provide that every person over the age of 18 years and every person under the age of 18 years with the written consent of one parent or guardian has the right to direct the manner in which his body shall be disposed of after death.

OHIO
OHIO REV. CODE ANN. §§ 2108.01-.03 (Page 1968).

1. A person who is 21 years of age or older and of sound mind may make a gift of all or any part of his body effective upon his death.

3. The rights of a donee or his agent under a gift are superior to those of any person claiming as spouse, relative, guardian, or any other relationship, and as such, rights may be limited by the instrument of donation.

4. and 5. The following persons may be named as donee in a gift for the purposes indicated: (a) a licensed physician or surgeon, or a hospital for medical education, research, the advancement of medical science, aid in therapy, or transplantation to replace diseased or deteriorated parts of other persons; (b) a medical school, college, or university engaged in medical education and research, for its educational research or scientific purposes; (c) a nonprofit blood bank, artery bank, eyebank, or other storage facility for human parts to be used for therapy or transplantation for other persons, or for medical education and research; (d) a named individual for transplantation or therapy needed by him; and (e) any licensed physician or surgeon claiming the body, not naming him, for any of the above purposes. A gift made under this section, in addition to the authorizations contained in the instrument of gift, authorizes the donee or his agent to perform only the surgical procedure necessary to carry out the gift. When
the gift is of only a part(s) of the body, immediately following the removal of the part(s) named, custody of the body shall be transferred to the next of kin.

7. Donations may be made by a written instrument signed by the donor or by some person in his presence and at his express direction and subscribed by two witnesses in the presence of the donor. Neither witness may have any affiliation with the donee or the donee institution. Delivery or acceptance is not necessary. If the entire body has been donated, next of kin may arrange last rites before the body is claimed by the donee.

10. A gift may be revoked in the same manner as executed.

11. A person who, in good faith and in reliance upon an authorization made under this act, and without notice of revocation thereof, takes possession of, performs surgical operations upon, removes tissue, substances, or parts from a human body, refuses such a gift, or unknowingly fails to carry out the wishes of the donor according to this act is not liable for damages in a civil action for such an act.

OKLAHOMA


Oklahoma has adopted the UNIFORM ANATOMICAL GIFT ACT with some modification. The most significant, for the purposes of this paper, being the alteration of section 2(a) to provide that any adult of sound mind may give all or any part of his body for any purpose specified in section 4, the gift effective on death.

OREGON

ORE. REV. STAT. §§ 97.130-.134 (1967-68).

1. A person of testamentary capacity may give the whole or part of his body.
2. The right to control the disposition of the remains of the decedent, unless other directions have been given by him, vests in his surviving spouse, his surviving children, his surviving parents, and the kindred to him, in that order. It is not clear whether "disposition" would include the donation of organs or tissue for transplantation or other medical purposes.
3. The decedent's directions as to donation would apparently override those of his next of kin.
4. The donee may be a charitable, educational, or research institution or organization, or licensed hospital.
5. Donations may be made for scientific and medical purposes designated by the donor or determined by the institution, organization, or hospital.
6. Gifts may be made by a will and shall be effective upon the death of the testator or donor.
7. Donations, other than by will, may be made by an instrument executed by the donor or some person in his presence, by his direction, and attested to in the presence of the donor by two or more competent witnesses.
10. Revocation or modification is implied from other provisions, but actual mechanisms are not discussed.
11. No person acting in good faith pursuant to the directions contained in such will or other instrument without knowledge of the subsequent revocation or modification, if any, of such will or other instrument shall be liable to the surviving spouse or next of kin for performing acts necessary to carry out the gift of the donor.

PENNSYLVANIA


1. Any person may direct that any part of his remains be given.
3. If such a direction has been made, the person(s) otherwise entitled to control the disposition of the remains of the decedent shall faithfully and promptly carry out
the directions of the decedent.  
4. Donations may be made to any nonprofit eye or body part bank. A written donation shall authorize any representative of the donee to take the necessary action to remove and preserve such material within 24 hours after the death of the donee and shall not require the consent of the personal representative of the decedent. After the removal of such material, the remains of the decedent shall be the responsibility of the person(s) otherwise entitled to control the disposition of the remains of such decedent.  
6. A gift may be made by will and shall be immediately carried out, regardless of the validity of the will or the fact that it may not be offered for or admitted to probate until a later date.  
7. Donations may be made by a written instrument; no witnesses are required.

RHODE ISLAND  
1. Any person of legal age and sound mind may donate his remains.  
2. Donations may also be made by the surviving spouse or the deceased's lawful heirs. Any person who by law controls the disposition of the remains of a deceased minor child may, by written instrument, authorize a medical school to use said minor decedent's body or any part thereof for any medical purpose. The operation of this section applies to stillborn infants.  
3. The right to control the disposition of the remains shall be in accord with the following priority: the deceased, the spouse of the deceased, and any of the deceased's lawful heirs.  
4. Donations may be made to a "medical school," which is defined as a university or college conducting a medical curriculum at the graduate level.  
5. Donations may be used for such "medical purposes" as may have been designated, or in the absence of any such designation, for such "medical purposes" as the named donee may determine.  
6. Dispositions may be made by will.  
7. Any donation shall be by written instrument signed by the person donating and witnessed by two persons of legal age. No particular form or words shall be necessary for such donation or authorization provided that the instrument conveys the clear intention of the person making the donation.  
10. Any such disposition may be revoked by the donor at any time prior to his death by the execution and delivery to the donee, if one is specified, of a written instrument in the same manner as the original donative instrument. If the original instrument specifies no donee, the same shall be revoked by burning, tearing, or otherwise destroying such and all executed copies thereof.  
11. The director of health and his designate or designates shall not be liable to any person for any act done in accomplishing the purposes of the act unless performed in bad faith.

SOUTH CAROLINA  
1. Every person of full age and sound mind may give all or part of his anatomy.  
4. Gifts may be made to the Board for Distribution of Dead Bodies. Upon the death of the donor, the Board or its agent may claim the body and remove from the donor that portion of his anatomy given to the Board; the Board or its agent shall use reasonable care in removing that portion of the anatomy to avoid undue mutilation of the body. The Board will cooperate with the surviving spouse of the next of kin in carrying out satisfactory religious services.  
5. The part of the donor's anatomy shall be used for the purpose specified in the instrument. If no purpose is specified, the Board may use it in any manner authorized by the act. It is not clear that the Board for Distribution of Dead Bodies has the
authority to use the organs and tissue for transplantation since § 9-505 provides in part that colleges and schools shall first be supplied with bodies needed for lectures and demonstration. However, since the donor may specify the purpose, and no limitation is included, authority to donate for transplantation probably exists.

7. A donation shall be made by a written instrument signed by the donor in the presence of two competent witnesses and acknowledged before any person who is authorized to take acknowledgments within the state. The written instrument shall be deposited and retained on file in the probate court of the county wherein the donor resides.

10. The gift of any person of all or a portion of his anatomy made pursuant to the provisions of the act may be revoked by the donor by demanding return to him of the written instrument of gift, and any duplicate originals thereof, from the Board or person in possession of the same or by written instrument executed and filed in the same manner as the original gift.

11. The Board and any person authorized by it to remove a portion of any donor's anatomy shall not be liable for damages in any civil suit for the removal of that part unless the gift has been revoked in the manner prescribed. Likewise, any person who delivers or permits the removal of any part of the donor's anatomy, or fails to do such, shall not be liable in any manner unless he has knowledge of a revocation.

SOUTH DAKOTA


South Dakota has adopted the UNIFORM ANATOMICAL GIFT ACT in its entirety, but has renumbered and rearranged the sections.

TENNESSEE


1. Any person of sound mind and 21 years of age or older may dispose of the whole or any part of his body.

3. If the donee shall elect to accept the gift, its rights and interests therein and the right of possession shall be superior to the rights and interests of the surviving spouse or next of kin. The surviving spouse and other next of kin who have actual knowledge that the donor has disposed of his body or parts thereof in accordance with the provisions of the act shall have no rights of possession and disposition of the body of the donor until the donee has claimed and removed the portions of the body given to it or has rejected the gift of the body or portions thereof.

4. The gift must name as donee a medical or dental institution that is in active operation or the State Anatomical Commission. Upon the death of the donor, the donee or its agent may take possession of the body of the donor and remove those portions of the anatomy donated. The donee or its agents shall use reasonable care in removing the portions of the anatomy so given to avoid unnecessary mutilation of the body. The surviving spouse or next of kin shall have the right to claim the remainder of the body and dispose of it by burial or by other customary and proper manner. If the donor has given to the donee his entire body, the donee shall give the surviving spouse or next of kin an opportunity to provide last rites for the deceased.

5. The donee shall use such gift for the purpose specified. If no purpose is specified, the donee may use it for any medical or educational purpose.

6. Gifts may be made by a will or codicil and shall be valid regardless of the fact that the document may not be offered for or admitted to probate until a later date.

7. All other written instruments shall be signed by the donor in the presence of two competent witnesses and acknowledged before any person who is authorized to take acknowledgments within the state. Such written instruments shall be delivered by the donor to the donee.
10. The gift may be revoked by the donor by notice to the donee and demand that the donee return to him the written instrument of gift or, if the gift is contained in a will or codicil, by any method legally effective to revoke a will.

11. The donee, any licensed medical practitioner, or medical or educational institution who removes the portions of any donor's anatomy or takes possession of the body when the entire body is given shall not be liable for damages in any civil suit for the removal of the portions so given or for possessing the body, unless the gift has been revoked and the person or the institution involved has received actual notice of such prior to removal or prior to taking possession of the body. Any person who delivers or permits, or fails to deliver or permit, the removal of all or any portion of the donor's anatomy shall not be liable in any manner unless he has actual knowledge of the revocation or, in the latter case, has actual knowledge of the gift which has not been revoked.

TEXAS


1. Any inhabitant of this state of legal age and of sound mind may arrange for the disposition, after death, of his body or any organ, member, or part thereof.

4. Each instrument may designate the donee, but such shall not be necessary. A donee may be an individual, hospital, institution, or a bank maintained for the storage, preservation, and use of human bodies or the organs, members, or parts thereof. Provision is made for open-ended donations.

5. Gifts may be made only for the purpose of advancing medical science or for the replacement or rehabilitation of diseased or worn out organs, members, or parts of the bodies of living humans.

6. Gifts may be made by will.

7. Donations may be made by written instrument signed by the donor and witnessed by two persons of legal age. No particular form or words shall be necessary, provided the instrument conveys the clear intention of the person making the same.

10. The donor may revoke at any time prior to death any disposition previously made by execution of a written instrument in the same or a similar manner as the original donation and bequest.

11. The hospital or physician shall not be liable civilly or criminally for removing said organs or any part thereof from the body, providing the donor has, prior to death, executed a valid written agreement as provided in the act.

UTAH

No applicable statute.

VERMONT


Vermont has adopted the Uniform Anatomical Gift Act with some modifications. The most significant, for the purposes of this paper, is the alteration of section 2(a) to provide that any person of sound mind and 21 years of age may make a donation.

VIRGINIA


1. Every inhabitant of this state of the age of 21 or older and of sound mind may arrange for the disposition, after death, of his body or any part thereof.

2. The person(s) having the right to a body for burial may likewise consent to such use of the body or any part thereof.

5. Donations must be made for the purpose of scientific use, other advancement of medical science, or the replacement or rehabilitation of diseased parts of the bodies of other humans.
6. Donations may be made by will.
7. Donations may be made by an instrument executed in the same manner as a will.
10. Any such disposition may be revoked by the testator or grantor at any time prior to his death by the execution of a written instrument in the same manner as the original grant.

WASHINGTON

WASH. REV. CODE ANN. §§ 68.08.250-280 (1962).

1. Any person of legal age and sound mind may donate the whole or any part of his remains.
2. and 3. Any person who has the right to control the disposition of the remains of a deceased person may also authorize the use of the decedent's body or any part thereof, unless contrary directions have been given by the decedent. The operation of this section shall not be barred by the decedent's not having reached the age of majority. This section shall also be applicable to stillborn infants.
4. Gifts may be made to a teaching institution, university, college, the Director of Health of the State, any public or nonprofit therapeutic agency approved by the Director of the State Board of Health under rules and regulations established by the Director or Board or any legally licensed hospital.
5. Donations may be used for such "medical purposes" as may have been designated, or in the absence of any such designation, for such medical purposes as the named donee may determine.
7. Donations are made by executing a written instrument.
10. Written instruments of donation may be revoked by the donor in writing; and if the instrument has been delivered to the donee, he shall redeliver it to the donor forthwith upon receipt of the revocation.
11. A donee shall not be liable to any person for carrying out the decedent's instructions.

WEST VIRGINIA

W. VA. CODE ANN. §§ 16-9-1 to -3 (1966) (authority provided for eyes only).

1. A person 21 years or older and of sound mind may prescribe the disposition, after death, of his eyes or any part thereof.
2. The person(s) having the right to a body for burial may consent to such use of the eyes or parts thereof.
4. Each instrument may designate the donee, but such shall not be necessary. A donee may be an individual, hospital, institution, agency engaged in sight restoration, or a bank maintained for the storage, preservation, and use of human eyes or parts thereof. Provision is made for open-ended donations.
5. Donations must be made for the purpose of advancing medical science or for the replacement or rehabilitation of diseased eyes or worn out or injured parts of the eyes of living human beings.
7. Donations may be made by a dated written instrument signed by the person making or giving the same and witnessed by two persons of legal age. No particular form or words shall be necessary for such donation, provided the instrument conveys the clear intention of the person making the same.
10. Any disposition may be revoked by the donor at any time prior to his death by the execution of a written instrument in the same manner as the original grant.
11. No hospital, donee, or physician who reasonably relies upon a dispositive instrument appearing to have been made in conformity with the provisions of the act shall be liable civilly or criminally for removing eyes or parts thereof from the body of a deceased donor.
WISCONSIN


1. Every person 21 years or older and of sound mind may make a gift during his lifetime of all or any part of his body.

3. Such body or parts thereof may be made available to a medical school or bank after the death of the donor by the person having custody of the body.

4. The gift may be made to any medical school or bank handling parts of the body. The donee may accept or reject the gift. If the donee accepts, he or his agent may cause to be removed from the body that portion given to the donee. If the entire body is given, it shall not be delivered to the donee or his agent until after the surviving spouse or other person who assumes custody of the body has had an opportunity to provide a funeral service or other last rites for the deceased.

5. Gifts may be made for scientific, medical, or educational purposes.

7. Such a gift shall be evidenced by a written instrument signed by the donor and two competent witnesses who know the signature to be that of the donor.

10. The gift may be revoked by the donor at any time during his lifetime.

11. No person acting in good faith to carry out the written directions of the donor shall be liable for damages in any civil suit for his actions, notwithstanding the fact that, for any reason, the supposed gift is invalid.

WYOMING


Wyoming has adopted the Uniform Anatomical Gift Act in its entirety.
Appendix C

Uniform Anatomical Gift Act

Final Draft

An act authorizing the gift of all or part of a human body after death for specified purposes.

SECTION 1 [Definitions]
(a) "Bank or storage facility" means a facility licensed, accredited or approved under the laws of any state for storage of human bodies or parts thereof.
(b) "Decedent" means a deceased individual and includes a stillborn infant or fetus.
(c) "Donor" means an individual who makes a gift of all or part of his body.
(d) "Hospital" means a hospital licensed, accredited or approved under the laws of any state and includes a hospital operated by the United States government, a state, or a subdivision thereof, although not required under state laws.
(e) "Part" includes organs, tissues, eyes, bones, arteries, blood, other fluids and other portions of a human body, and "part" includes "parts."
(f) "Person" means an individual, corporation, government or governmental subdivision or agency, business trust, estate, trust, partnership or association or any other legal entity.
(g) "Physician" or "surgeon" means a physician or surgeon licensed or authorized to practice under the laws of any state.
(h) "State" includes any state, district, commonwealth, territory, insular possession, and any other area subject to the legislative authority of the United States of America.

SECTION 2 [Persons Who May Execute an Anatomical Gift]
(a) Any individual of sound mind and 18 years of age or more may give all or any part of his body for any purposes specified in Section 3, the gift to take effect upon death.
(b) Any of the following persons, in order of priority stated, when persons in prior classes are not available at the time of death, and in the absence of actual notice of contrary indications by the decedent, or actual notice of opposition by a member of the same or a prior class, may give all or any part of the decedent's body for any purposes specified in Section 3:
   (1) the spouse,
   (2) an adult son or daughter,
   (3) either parent,
   (4) an adult brother or sister,
   (5) a guardian of the person of the decedent at the time of his death,
   (6) any other person authorized or under obligation to dispose of the body.
(c) If the donee has actual notice of contrary indications by the decedent, or that a gift by a member of a class is opposed by a member of the same or a prior class, the donee shall not accept the gift. The persons authorized by subsection (b) may make the gift after death or immediately before death.
(d) A gift of all or part of a body authorizes any examination necessary to assure medical acceptability of the gift for the purposes intended.
(e) The rights of the donee created by the gift are paramount to the right of others except as provided by Section 7(d).

SECTION 3 [Persons Who May Become Donees, and Purposes for Which Anatomical Gifts May Be Made] The following persons may become donees of gifts
of bodies or parts thereof for the purposes stated:

(1) any hospital, surgeon, or physician, for medical or dental education, research, advancement of medical or dental science, therapy or transplantation; or

(2) any accredited medical or dental school, college or university for education, research, advancement of medical or dental science or therapy; or

(3) any bank or storage facility, for medical or dental education, research, advancement of medical or dental science, therapy or transplantation; or

(4) any specified individual for therapy or transplantation needed by him.

SECTION 4 [Manner of Executing Anatomical Gifts]

(a) A gift of all or part of the body under Section 2(a) may be made by will. The gift becomes effective upon the death of the testator without waiting for probate. If the will is not probated, or if it is declared invalid for testamentary purposes, the gift, to the extent that it has been acted upon in good faith, is nevertheless valid and effective.

(b) A gift of all or part of the body under Section 2(a) may also be made by document other than a will. The gift becomes effective upon the death of the donor. The document, which may be a card designed to be carried on the person, must be signed by the donor, in the presence of 2 witnesses who must sign the document in his presence. If the donor cannot sign, the document may be signed for him at his direction and in his presence, and in the presence of 2 witnesses who must sign the document in his presence. Delivery of the document of gift during the donor's lifetime is not necessary to make the gift valid.

(c) The gift may be made to a specified donee or without specifying a donee. If the latter, the gift may be accepted by the attending physician as donee upon or following death. If the gift is made to a specified donee who is not available at the time and place of death, the attending physician upon or following death, in the absence of any expressed indication that the donor desired otherwise, may accept the gift as donee. The physician who becomes a donee under this subsection shall not participate in the procedures for removing or transplanting a part.

(d) Notwithstanding Section 7(b), the donor may designate in his will, card or other document of gift the surgeon or physician to carry out the appropriate procedures. In the absence of a designation, or if the designee is not available, the donee or other person authorized to accept the gift may employ or authorize any surgeon or physician for the purpose.

(e) Any gift by a person designated in Section 2(b) shall be made by a document signed by him, or made by his telegraphic, recorded telephonic or other recorded message.

SECTION 5 [Delivery of Document of Gift] If the gift is made by the donor to a specified donee, the will, card or other document, or an executed copy thereof, may be delivered to the donee to expedite the appropriate procedures immediately after death, but delivery is not necessary to the validity of the gift. The will, card or other document, or an executed copy thereof, may be deposited in any hospital, bank or storage facility or registry office that accepts them for safekeeping or for facilitation of procedures after death. On request of any interested party upon or after the donor's death, the person in possession shall produce the document for examination.

SECTION 6 [Amendment or Revocation of the Gift] If the gift is made by the donor to a specified donee, the will, card or other document, or an executed copy thereof, may be delivered to the donee to expedite the appropriate procedures immediately after death, but delivery is not necessary to the validity of the gift. The will, card or other document, or an executed copy thereof, may be deposited in any hospital, bank or storage facility or registry office that accepts them for safekeeping or for facilitation of procedures after death. On request of any interested party upon or after the donor's death, the person in possession shall produce the document for examination.

(a) If the will, card or other document or executed copy thereof, has been delivered to a specified donee, the donor may amend or revoke the gift by:

(1) the execution and delivery to the donee of a signed statement, or

(2) an oral statement made in the presence of 2 persons and communicated to the donee, or
(3) a statement during a terminal illness or injury addressed to an attending physician and communicated to the donee, or

(4) a signed card or document found on his person or in his effects.

(b) Any document of gift which has not been delivered to the donee may be revoked by the donor in the manner set out in subsection (a) or by destruction, cancellation, or mutilation of the document and all executed copies thereof.

(c) Any gift made by a will may also be amended or revoked in the manner provided for amendment or revocation of wills, or as provided in subsection (a).

SECTION 7 [Rights and Duties at Death]

(a) The donee may accept or reject the gift. If the donee accepts a gift of the entire body, he may, subject to the terms of the gift, authorize embalming and the use the body in funeral services. If the gift is of a part of the body, the donee, upon the death of the donor and prior to embalming, shall cause the part to be removed without unnecessary mutilation. After removal of the part, custody of the remainder of the body vests in the surviving spouse, next of kin or other persons under obligation to dispose of the body.

(b) The time of death shall be determined by a physician who attends the donor at his death, or, if none, the physician who certifies the death. This physician shall not participate in the procedures for removing or transplanting a part.

(c) A person who acts in good faith in accord with the terms of this Act, or under the anatomical gift laws of another state [or a foreign country] is not liable for damages in any civil action or subject to prosecution in any criminal proceeding for his act.

(d) The provisions of this Act are subject to the laws of this state prescribing powers and duties with respect to autopsies.

SECTION 8 [Uniformity of Interpretation] This Act shall be so construed as to effectuate its general purpose to make uniform the law of those states which enact it.

SECTION 9 [Short Title] This Act may be cited as the Uniform Anatomical Gift Act.

SECTION 10 [Repeal] The following acts and parts of acts are repealed:

(1)
(2)
(3)

SECTION 11 [Time of Taking Effect] This Act shall take effect. . . .