

Brain Death

II. A Status Report of Legal Considerations

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PART I of this article established the scientific validity of current clinical and laboratory criteria for determining complete destruction of the brain or brain death. It also showed that total destruction of the brain constitutes a determinant of death, which is in accord with secular philosophy and the three major Western religions. In part II, legal issues that arise from use of brain-related criteria to pronounce death are considered.

NEED FOR STATUTORY RECOGNITION OF BRAIN DEATH

The fact that physicians can recognize total and irreversible destruction of the brain on the basis of clinical and laboratory criteria is accepted and commonly utilized in many areas of the world. The need to make such pronouncements is based primarily on the requirement of society to respond appropriately to two recent advances in medical technology. The first is the hardware that can artificially maintain lung and heart action in the absence of spontaneous respiration and circulation. Although these devices may be lifesaving in many situations, their use in maintaining respiration and circulation in a human body that is dead by virtue of total destruction of the brain serves no useful purpose. In such instances it is reasonable to terminate these artificial support systems.

The second advance that requires pronouncement of death on brain-re-

lated criteria is cadaver organ transplantation. Most suitable donor organs come from patients who die from injury or disease of the brain. Only in such patients may the donor's circulation be artificially maintained after death so that needed organs can be removed with minimal ischemic damage. Since destruction of the brain is the cause of the donor's death, there is no reason not to remove these organs before cessation of the donor's artificially maintained circulation. This requires recognition that destruction of the brain is the basis for death of the donor and pronouncement of death on brain-related criteria.

Since the responsibility for pronouncing death resides with physicians, it has been suggested that no statute giving legal recognition to any particular criterion for determining death is necessary or desirable.¹ However, there is a potential dilemma in the absence of legal recognition of the medically accepted practice of pronouncing death on neurologic criteria. Physicians who pronounce death on this basis may be disputed in a judicial proceeding with the contention that death occurs only when spontaneous respiration and heartbeat cease. This contention could be based on the common law definition of death (to follow, under "Legal Status of Brain Death")² which is generally held applicable to jurisdictions without specific statutes. Without statutory or case law recognition of the use of brain-related criteria for pronouncing death, it is possible that a valid medical declaration of death could be considered illegal and lead to difficulty in the prosecution of a murderer or criminal or civil liability on the part of a physician or hospital. These possibilities

have made many neurologists and neurosurgeons reluctant to pronounce death on brain-related criteria and have given rise to judicial actions in several locales. These cases have been a major factor leading to the passage, in many states, of statutes recognizing the use of brain-oriented criteria for pronouncing death.

Case law recognition of the legal validity of pronouncing death on brain-related criteria, although helpful, is an inadequate solution to the dilemma that arises from the potential discrepancy between medically accepted practice and legally accepted practice for two important reasons. First, case law is fluid and subject to appeal and change by subsequent judicial action. Second, court decisions to recognize the use of brain-related criteria for pronouncing death may relate to certain special circumstances, such as transplant organ donation. A statute giving general recognition to this concept for all purposes would avoid future inconsistencies under the law and would prevent repeated anguish-producing court cases. Such a law would allow a physician to terminate artificial respiratory support for a patient who is clearly dead by accepted and validated criteria. It would obviate the possibility that the physician, other health professionals, next of kin, guardians, and institutions might be held criminally or civilly liable for actions consistent with standards of current medical practice.

In addition, even if physicians agree that brain-related criteria should be used in death pronouncements, it is still an open question what the rest of society would choose to have as its public policy. Public policy can only be determined by some public act such as legislation. Thus, a statutory definition of death would serve as a vehicle to translate a generally accepted medical standard into a form that is accepted by most if not all members of society. As such, it will help to minimize some of the burdens placed on the family and physicians of the dead person by facilitating honest relationships and communication between them in many ways.

Until such public policy recognition by legislation has occurred, the family confronted with the loss of a loved one who is dead by virtue of brain-re-

lated criteria is forced to deal with the confusing and misleading assumption, supported by an out-of-date common law, that, while the heart beats, there is life and hope of recovery. Of all the reasons for establishing a statutory definition of death, the simplest and the most important is that it will help the family of the dead patient to appreciate the reality of his death, and to reassure them that the medical determination of death is valid. Such a law will also facilitate relief of the family from financial and emotional pressures and will enable them to confront death with more dignity and understanding.

In a similar way, the physician's onerous task of conveying to the family in such a situation that their loved one is in fact dead would be aided and supported by the passage of an up-to-date statutory definition of death. This would reflect a public policy that recognizes that when the brain is dead, the person as a whole is dead and there is neither life nor hope despite the mechanically supported respiration and heartbeat. The presence of such a statute will remove from the physician the fear of unjust litigation and thereby allow him to practice medicine in a manner consistent with present scientific knowledge and standards. It will allow him to do this openly after honest discussion with the patient's family, and it will permit him to cooperate in efforts to procure cadaver organs in optimal condition for transplantation into other patients.

A further advantage of having a statutory definition of death is that it would help to guarantee that the highest standards of medical science would be used to make this determination. The recent New Jersey Supreme Court decision³ in the Karen Quinlan case underscores the need to assure the public that pronouncements of death will be based on standardized and thoroughly validated indices. Even though Ms Quinlan did not fulfill the criteria of brain death, the court held that her parent acting as guardian might authorize cessation of life-sustaining treatment if a physician and a hospital "ethics committee" agreed there was no reasonable possibility of recovery to a cognitive, sapient state. Although this

decision and the resulting discontinuation of respiratory support did not alter Ms Quinlan's course because she was able to breathe spontaneously, there has been substantial confusion between the issues in this case and the debate about the definition of death. Such misunderstandings could result in less than optimal nonstandardized determinations of death. These would be prevented by the existence of a statute that mandates use of the best standards of current medical practice to pronounce death.

A statutory definition of death would also have other advantages from a legal point of view. It would provide a clear and precise definition within which legal rights and relationships after death could be determined. It would facilitate the prosecution of murderers and permit the organs of murder victims to be used as transplants without jeopardizing conviction of the murderer. Such a statute would provide for consistency under the law in various jurisdictions, and it would avoid reliance on jury systems to make medical and legal decisions that might be inconsistent with present scientific knowledge.

Many physicians have suggested that the specific criteria for pronouncing brain death should not be placed in a statutory form. This is a reasonable position, since there is always the possibility that the criteria might change. This would mean that the law would have to be changed prior to utilizing any new and improved criteria. This is obviously a good reason not to legislate *specific* neurologic criteria for pronouncing death. However, it is an inadequate reason for opposing a law that, while leaving the specific criteria flexible, recognizes that death may be pronounced when irreversible cessation of brain function occurs.

LEGAL STATUS OF BRAIN DEATH

Until recently, the traditional legal definition of death has been consistent with the prevailing medical concept that death is determined by cessation of the vital functions of respiration and heartbeat. This is reflected in the common law definition of death as stated in *Black's Law Dictionary*: "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 thereon, such as respiration, pulsation, etc." With the exception of several notable recent decisions, traditional case law has similarly concentrated on the cardiovascular and respiratory functions as prime determinants of the occurrence of death.

In *Smith vs Smith*,⁴ the Supreme Court of Arkansas, in a case that turned on the issue of simultaneous death, adopted *Black's* definition of death verbatim. The court took judicial notice of the fact that "one breathing, though unconscious, is not dead." Similarly, in *Thomas vs Anderson*,⁵ a California District Court of Appeals also cited *Black's* definition and stated that "... 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." Other jurisdictions have also relied on this definition.^{6,7} In addition, other cases have upheld the premise that death has not occurred until cessation of heartbeat and respiration even in circumstances where the courts have noted complete destruction of the brain.⁸⁻¹⁰

In all the cases cited, the determination of death was dealt with as a question of fact for a jury to decide in connection with the demise of individuals for the purposes of construing and applying "simultaneous death" clauses in testamentary documents. The factual question of the time of death in these cases was judged on the basis of circumstantial evidence relating to the cessation of heartbeat and respiration. This evidence was provided by the testimony of lay persons rather than physicians. These cases, which constitute the leading precedents in this area, predated the landmark report of the Ad Hoc Committee of the Harvard Medical School to Examine the Definition of Brain Death,¹¹ which is now generally regarded as the first widely recognized index that current medical concepts about the definition of death were changing.

Emerging Case Law

In contrast with these traditional opinions, several recent cases have considered the issue of death in the light of expert testimony by physi-

cians concerning the time of irreversible cessation of brain function and have often incorporated such testimony in jury charges. These cases give explicit or implicit legal recognition to a pronouncement of death based on a determination of irreversible cessation of brain function in accordance with the customary standards of medical practice. These legal actions were relevant because the medical determination of the timing and occurrence of death in these cases were based on brain-related criteria, and legal application of traditional criteria of death would have been inappropriate. Thus, judicial action fortunately kept the law apace of scientific developments.

The first such judicial action occurred in the Oregon case, *State vs Brown*,¹² in which the defendant had been convicted on a charge of second-degree murder. On appeal, he contended that the victim's death was caused by termination of life-support systems rather than by the cranial gunshot wound that he had inflicted. The court held that the defendant's contention was without merit on the basis of expert medical testimony that the gunshot wound with resultant brain damage was the cause of death.

One year later, the impact of current medical thinking on case law was clearly evident in a Virginia case, *Tucker vs Lower*.¹³ In a wrongful death action, it was alleged that an individual was not dead at the time when his heart and kidneys were removed for purposes of transplantation. The court rejected a motion for a summary judgment in favor of the defendants on the grounds that the Court was bound by the common law definition of death until it was changed by the state legislature. However, after considerable debate, the court instructed the jury that it might properly consider, as a substitute for the traditional criteria for determining the time of death, "the time of complete and irreversible loss of all function of the brain; and, whether or not the aforesaid functions [respiration and circulation] were spontaneous or were being maintained artificially or mechanically." The jury then decided that the transplant surgeons were not guilty of causing a wrongful death. Whether

or not this decision was based on the jury's acceptance of the brain death concept is not known. However, this case has been widely publicized as supporting the use of brain-related criteria for pronouncing death. Furthermore, in commenting on this case, one legal scholar points out that "the jury instructions represent an admission by the courts that the old legal definition of death needs modification in the light of advances in medical science. The new definition—'brain death'—which is gaining recognition, reflects the consensus of informed medical opinion."¹⁴

Similarly, in a widely publicized California case, *People vs Lyons*,¹⁵ a victim had suffered a gunshot wound of the head and had been declared neurologically dead before a transplant team headed by Norman Shumway, MD, had removed his heart. The defendant pleaded not guilty to a charge of murder, contending that the death of the victim had been caused by the removal of his heart rather than by the gunshot wound inflicted by the defendant. On the basis of expert testimony, the jury was instructed as a matter of law that "the victim was legally dead before removal of the organs from his body." The court thereby removed from the jury its traditional task of having to determine the exact time of death. The brain death standard was explicitly accepted.

However, a contrasting ruling was made in the initial phase of another California criminal prosecution, emphasizing the inconsistency that can occur with case law. In this case the defendant, who had been driving on the wrong side of a freeway while intoxicated, had caused an accident that severely injured a 13-year-old girl. She was pronounced dead on brain-related criteria, and her heart was used as a transplant. On the basis of these facts, a municipal court judge at a preliminary hearing did not hold the defendant to answer to a manslaughter charge, apparently determining that the pronouncement of death on neurologic criteria and the subsequent removal of the heart created substantial doubt as to the proximate cause of death. The Court concluded that "the evidence is not certain as to the cause of death of Colenda Ward, certain enough to charge

this defendant with manslaughter."¹⁶ On a subsequent appeal by the district attorney, the Superior Court authorized the filing of a manslaughter charge and made reference to "unimpeached medical testimony," which conclusively established "that the [victim's] heart could not beat nor could she breathe without artificial support."¹⁶ The defendant was convicted of both manslaughter and felony drunk driving but received a sentence of less than five months. In commenting on this result, the deputy district attorney observed, "I cannot escape the firm belief that the uncertain state of the case and statutory law on the subject of brain death was a substantial factor in the imposition of such a light sentence" (written communication from Steven T. Tucker, deputy district attorney, Sonoma County, Calif, May 19, 1977).

A rather novel approach to the legal question of when does death occur was taken in 1975 in New York,¹⁷ where a court was requested to set forth, in an action for declaratory judgment, a legal definition of the terms "death" and "time of death" as used in the New York State Anatomical Gifts Act. The court was asked to include in such definition not only the common law criteria of cardiac and respiratory failure, but also the concept of "brain death." Following extensive uncontroverted testimony concerning brain death criteria, the court held that "death" as used in the Anatomical Gifts Act "implies a definition consistent with the generally accepted medical practice of doctors primarily concerned with effectuating the purposes of this statute." Having confined its decision legally recognizing brain-related criteria for pronouncing death to the Anatomical Gifts Act, the court concluded by urging the state legislature "to take affirmative action to provide a State-wide remedy for this problem."

These cases have been helpful in resolving particular controversies. However, they have probably had a greater impact by serving as a vehicle for increasing public awareness of the need for a statutory definition of death. In all but one instance in which litigation has arisen, legislation that recognizes the validity of brain death as a legally accepted standard for determining death has been enacted

shortly thereafter. The single exception is New York where proposals are currently pending before the state legislature.

Legislation

At the present time, 18 states have enacted a statutory definition of death: Kansas, Maryland, Virginia, New Mexico, Alaska, California, Georgia, Michigan, Oregon, Illinois, Oklahoma, West Virginia, Tennessee, Louisiana, Iowa, Idaho, Montana, and North Carolina.^{18,19} All 18 statutes recognize that death may be pronounced on the basis of irreversible cessation of brain function, and none describes in detail the specific criteria for determining brain death. However, the laws vary in certain major and minor ways. In general, they conform to one of three major types or patterns.

The first of these includes laws providing alternative definitions of death. Typical of this pattern is the first statute enacted in 1970 by Kansas:

A person will be considered medically and legally dead if, in the opinion of a physician, based on ordinary standards of medical practice, there is the absence of spontaneous respiratory and cardiac function and, because of the disease or condition which caused, directly or indirectly, these functions to cease, or because of the passage of time since these functions ceased, attempts at resuscitation are considered hopeless; and, in this event, death will have occurred at the time these functions ceased; or

A person will be considered medically and legally dead if, in the opinion of a physician, based on ordinary standards of medical practice, there is the absence of spontaneous brain function; and if based on ordinary standards of medical practice, during reasonable attempts to either maintain or restore spontaneous circulatory or respiratory function in the absence of aforesaid brain function, it appears that further attempts at resuscitation or supportive maintenance will not succeed, death will have occurred at the time when these conditions first coincide. Death is to be pronounced before artificial means of supporting respiratory and circulatory function are terminated and before any vital organ is removed for purposes of transplantation.

These alternative definitions of death are to be utilized for all purposes in this state, including the trials of civil and criminal cases, any laws to the contrary notwithstanding.

An identical statute was enacted by Maryland in 1972. In 1973, Virginia passed a similar law that differed only in that death on brain-related criteria can only be declared by two physicians, one of whom is a specialist in neurology, neurosurgery, or electroencephalography. The Virginia law also mandates that absence of spontaneous respiratory functions accompanies "absence of spontaneous brain functions." The New Mexico statute, passed in 1973, and the Alaska statute, passed in 1974, are similar to the Kansas law. The Oregon statute, enacted in 1975, is the simplest and clearest of the alternative definition type of law: "When a physician licensed to practice medicine acts to determine that a person is dead, he may make sure a determination of irreversible cessation of spontaneous respiration and circulatory function or irreversible cessation of spontaneous brain function exists."

All six of these alternative definitions of death statutes suffer the disadvantage of providing two different definitions of death. The choice of which to use in a specific instance is left to the physician. The major flaw with this type of legislation is that it appears to be based on the misconception that there are two separate types of death. This is particularly unfortunate because it seems to relate to the need to establish a special definition of death for organ transplant donors. These laws could lend support to the fear that a prospective transplant organ donor would be considered dead at an earlier point in the dying process than an identical patient who was not a potential donor.

In addition, such laws suffer the legal disadvantage of possibly permitting a physician, either inadvertently or intentionally, to influence the outcome of a will. If, for example, a husband and wife are fatally injured in the same accident, survivorship and consequent inheritance may be determined by the physician's choice of which of the alternative criteria to use in the pronouncements of death.

The second major type of law was suggested by Capron and Kass to remedy this defect and to provide one definition of death that recognizes that death is a single phenomenon that can be determined by brain-re-

lated criteria only in situations where artificial support of respiratory and circulatory functions is being maintained²⁰:

A person will be considered dead if in the announced opinion of a physician, based on ordinary standards of medical practice, he has experienced an irreversible cessation of spontaneous respiratory and circulatory functions. In the event that artificial means of support preclude a determination that these functions have ceased, a person will be considered dead if in the announced opinion of a physician based on ordinary practice, he has experienced an irreversible cessation of spontaneous brain functions. Death will have occurred at the time when the relevant functions ceased.

This model statute takes cognizance of the fact that the medical standards for pronouncing death may vary with circumstances. However, unlike the previous laws, it does not leave as an arbitrary decision for the physician the choice of which standard to apply, but defines under what circumstances the new or secondary brain-related criteria may be used. This bill avoids establishing a separate kind of death, brain death, and as pointed out by Capron and Kass provides "two standards gauged by different functions for measuring different manifestations of the same phenomenon. If cardiac and pulmonary functions have ceased, brain functions cannot continue; if there is no brain activity and respiration has to be maintained artificially, the same state [ie, death] exists."²⁰ The Capron-Kass Bill, which clearly appears to be satisfactory if not ideal, was adopted by Michigan and West Virginia in 1975 and Louisiana in 1976. The latter law specifies that when organs are to be used as a transplant, an additional physician unassociated with the transplant team must also pronounce death. Iowa in 1976 and Montana in 1977 enacted laws based on the Capron-Kass model with the additional requirement that brain death pronouncements must be made by two physicians.

The third major type of law follows the suggestion of the American Bar Association, which recognized the need for a standardized statutory definition of death that minimized the risk of confusion from misunderstandings of semantics, medical technology, and legal sophistication and

that took into account recent developments in transplantation, supportive therapy, and resuscitation. The suggested law was developed by the Law and Medicine Committee of the American Bar Association in 1974 and approved by the House of Delegates of that organization in 1975²¹: "For all legal purposes, a human body with irreversible cessation of total brain function, according to usual and customary standards of medical practice, shall be considered dead." This Committee states²¹ that the advantages of its simple, direct definition are that it (1) permits judicial determination of the ultimate fact of death, (2) permits medical determination of the evidentiary fact of death, (3) avoids religious determination of any facts, (4) avoids prescribing the medical criteria, (5) enhances changing medical criteria, (6) enhances local medical practice tests, (7) covers the three known tests (brain, beat, and breath deaths), (8) covers death as a process (medical preference), (9) covers death as a point in time (legal preference), (10) avoids passive euthanasia, (11) avoids active euthanasia, (12) covers current American and European medical practices, (13) covers both civil law and criminal law, (14) covers current American judicial decisions, and (15) avoids nonphysical sciences.

Some have objected that this simple model statute fails to recognize the still common practice of pronouncing death on the basis of cessation of heartbeat and respiration. However, in practice, death is only pronounced when the functions of circulation and respiration have ceased long enough to cause destruction of the brain and produce other signs of lifelessness. In these instances, cessa-

tion of circulation and respiration represent the specific criteria by which irreversible cessation of brain function or death is determined. Thus, this model statute recognizes traditional as well as brain-related criteria for determining death. It is, therefore, also satisfactory and has formed the basis for the California statute enacted in 1974, the Georgia statute enacted in 1975, and the Idaho statute passed in 1977. All three laws require that deaths pronounced on brain-related criteria be confirmed by a second physician. The Illinois statute, enacted in 1975, also resembles the American Bar Association's suggestion in its simplicity. It does not require concurrence of a second physician, although it has the flaw of restricting the use of brain-related criteria to instances involving the Uniform Anatomical Gift Act. It, therefore, has the disadvantage of implicitly establishing alternative types of death with a special definition to be used for transplant organ donors. The Oklahoma law, enacted in 1975, also seems to be based on the American Bar Association model but is rendered confusing by the addition of a number of qualifying clauses and phrases mandating that it must also appear "that further attempts at resuscitation and supportive maintenance will not succeed." The Tennessee statute, enacted in 1976, avoids these flaws and complexities and follows exactly the recommendation of the American Bar Association.

Many factors underlie the variability between the statutes enacted in the different states and account for the difficulty in reaching agreement on what constitutes the wording of a single ideal statutory definition of

death. Prominent among these factors is the present climate of public mistrust of the medical profession. This has prompted legislators to enact more complicated laws in an attempt to protect patients from erroneous or premature declarations of death.

Hopefully the present article, by summarizing the overwhelming evidence supporting the validity of brain death, will help to allay these concerns and facilitate drafting of simple, effective statutes defining death. Furthermore, by showing that pronouncements of death on brain-related criteria are in accord with secular philosophy and principles of the three major Western religions, it is hoped that the present article will help overcome opposition to legislation from those who previously failed to accept the brain death concept. And lastly, by documenting the compelling reasons to have a statutory definition of death, the present article will hopefully help to influence the American Medical Association and others, who have felt that legislation defining death is unnecessary, to adopt a supportive position, as several of the state medical societies have already done. Such support would greatly facilitate passage of appropriate statutes in the 32 states presently without them. This, in turn, would make the law in regard to brain death consistent with current medical practice throughout the entire United States. (*This is Part II of a two-part article. Part I appeared last week.*)

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