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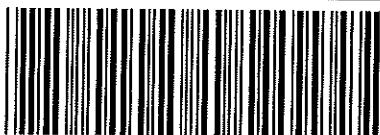
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Definition of Death In Jewish Law

FRED ROSNER, MD

The first heart transplant was performed in 1967 and raised moral, religious, ethical, and legal problems relating to life and death, and especially the medical definition of death. The rapid advances in biomedical technology over the past two decades have provided the medical profession with life-support and life-sustaining equipment which becloud and make difficult the recognition of death in some patients.¹

Medicolegal definition of death

Medical and legal definitions of death, although similar in certain respects, differ in others. Even among physicians or medical groups there is neither unanimity of opinion nor uniformity in defining death, and religious definition may be at variance with either those of the medical or legal professions.²

The criteria for defining death acceptable to many physicians include complete bilateral pupillary dilatation with no reaction to local constricting stimuli,

complete abolition of reflexes, complete cessation of spontaneous respiration, absence of measurable blood pressure, and a flat electroencephalogram.

In 1968, guidelines for organ transplants were approved by the House of Delegates of the American Medical Association, included was the following statement:

When a vital single organ is to be transplanted, the death of the donor shall have been determined by at least one physician other than the recipient's physician. Death shall be determined by the clinical judgment of the physician. In making this determination, the ethical physician will use all available, currently accepted scientific tests.³

How does one ascertain the irreversibility of the process of life? The Ad Hoc Committee of the Harvard Medical School to Examine the Definition of Brain Death arrived at the generally accepted definition of irreversible coma which included unresponsiveness and unresponsivity, no movements or breathing, no reflexes, and a flat electroencephalogram.⁴

At what point need a physician no longer attempt resuscitation? In 1968 the World Medical Association adopted a statement, which asserted in part that a physician's determination of death "should be based on clinical judgment, supplemented if necessary by diagnostic aids, of which the electroencephalograph is the current most helpful single one." Drafters of the statement admitted its indefiniteness

The artificial heart

The recent implantation of an artificial heart into Dr. Barney Clark has raised many ethical and religious issues in regard to life and death and the "artificial" prolongation of life.

A basic tenet of Judaism is the supreme value of human life. This principle is based in part on the belief that man was created in the image of God. Jewish law requires the physician to do everything in his power to prolong life, but prohibits the use of measures that prolong the act of dying. To save a life all Jewish religious laws are automatically suspended, the only exceptions being idolatry, incest, and murder.

Organ transplantation is a praiseworthy activity in that it provides prolongation of life for most patients undergoing this procedure. Hence corneal, renal, and cardiac transplantation are sanctioned by most rabbis and even mandated by some but with permission of the deceased or next of kin. For kidney transplants, live donors may be used. When cadaver organs are to be used, the organ may not be removed for transplantation until the donor has been pronounced dead.

Euthanasia is opposed without qualification in Jewish law, which condemns any deliberate hastening of death, whether the physician acts with or without the patient's consent. Some Rabbinic views do not allow any relaxation of efforts, however arti-

ficial and hopeless, to prolong life. Others do not require the physician to resort to "heroic" methods, but sanction the omission of machines and artificial life support systems that only serve to draw out the dying patient's agony, provided, however, that basic care such as food, good nursing, and psychosocial support is provided. Jewish tradition views death as inevitable and just. It differentiates between the body and the soul, acknowledging resurrection for the former and immortality for the latter. Respect for death is mandated.

The concern for the patient's physical and mental welfare remains supreme to the end, and everything must be done to preserve both. Therefore, the implantation of an artificial heart is consonant with the basic axioms of Judaism relating to the sanctity and infinite value of human life. This sanctioning of such a complex and controversial experimental treatment in Judaism is also predicated on the fulfillment of Jewish principles governing human experimentation, such as the lack of availability of a standard therapy, the expertise of the experimental team, the testing of such experimental procedures in animal models, and the reasonable expectation of therapeutic efficacy weighed against the potential risks.

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and stressed that there are neither precise scientific criteria nor a definition for what is the moment of death.

In 1973 the American Medical Association, reaffirmed its opposition to any "inflexible" statutory definition of death. The Conference of Royal Colleges and Faculties of the United Kingdom in 1976 endorsed a document which described in general terms the diagnosis of death and set out detailed diagnostic criteria for establishing when death has occurred in cases where vital functions are being maintained mechanically;^{5(p1069)} commenting on the document, an editorial writer^{5(p1064)} stated that:

Some patients who are rescued from impending death after cardiorespiratory arrest are left with a dead brain, artificial ventilation, and a beating heart. Even when mechanical ventilation is maintained, progressive dissolution of the brain, and then of other organs, continues; and the heart will stop beating within a few days. This biological artefact, achieved by technological progress, is the state of brain death.

Because the 1976 document made no reference to organ transplantation, a supplementary memorandum was published in 1979.⁶ A brain death protocol appeared a year later.⁷ That same year, a BBC television program, *Panorama*, suggested that in Britain, kidneys may on occasion be removed from donors who would otherwise have lived. Much was made of three illustrative case histories from the United States—a man who had been unconscious after cardiac arrest, a woman with drug overdose, and a man with severe accidental injuries—in all of whom brain death was said to have been diagnosed, yet, the patients recovered. The recurring motif was, "If the patient wasn't dead when he was wheeled into the operating theatre, he certainly is now".⁸ One writer to *The Lancet*, alarmed at the insufficient methods for defining brain death, tore up his donor card.⁹ Another pointed out the fact that an isoelectric electroencephalogram (EEG) can occur in hypothermic patients or in those treated with sedative or neuromuscular blocking drugs.¹⁰ Yet another posited the value of the EEG in assessing irreversible coma.¹¹ Confusion was compounded by the use of terms such as "brain death," "cerebral death," and "brain stem death." The Code of British Practice which requires irreversible loss of brain stem function was firmly defended¹² by some and resoundly criticized by others.¹³ In this respect, the much-quoted US Collaborative Study¹⁴ was also strongly criticized.¹⁵

The controversy generated by the *Panorama* program reached fever pitch and resulted in the cancellation of a sequel program on brain death. Everyone seems to agree that the EEG is not 100% accurate and that flat EEGs can occur in a variety of situations in which the patient survives.¹⁶ Angiography¹⁷ and isotope angiography¹⁸ have been suggested as helpful aids in determining irreversible brain or brain stem death. Thirty sets of criteria for

the diagnosis of brain death were recently reviewed.¹⁹ Is it not possible to diagnose brain stem death on the basis of critical criteria alone? Must this diagnosis be reinforced by EEG or angiography, or both?

In the United States, partially in response to pressures from Stanford University Medical Center where most of the world's heart transplants were and continue to be performed, California, in 1976, became the first state to enact a law defining death as brain death, irrespective of whether or not the heart is still beating. To date, at least 26 states have adopted statutory definitions of death based on four different models:²⁰ (a) the Kansas Model in which alternative means for determining death are acceptable, (b) the Capron-Kass Model in which brain death pronouncements can be made only when heart and lung function are artificially maintained, (c) the American Bar Association Model in which irreversible cessation of total brain function equals death, and (d) the Uniform Brain Death Model which emphasizes irreversible cessation of brain stem function.

Two American medical journals have published review articles on medical, legal, ethical, and public opinion aspects of the definition and criteria of death.²¹⁻²² The President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research has recommended the adoption of a Uniform Determination of Death Act in which a person who has sustained either irreversible cessation of circulatory and respiratory functions, or irreversible cessation of all functions of the entire brain, including the brain stem, is dead.²³ This Uniform Determination of Death Act was developed and approved by the American Bar Association, the American Medical Association, and the National Conference of Commissioners on Uniform State Laws. The law does not specify diagnostic tests or medical procedures acceptable for determining death, leaving the medical profession free to make use of new medical knowledge and diagnostic advances as they become available. The determination of death must thus be made in accordance with accepted medical standards.

Although the original impetus for equating human death with irreversible brain failure was initially stimulated by the rapidly expanding field of organ transplantation, in recent years the need for instituting a single organ (brain) definition of death from a scientific, theologic, and legal point of view has become paramount because of the difficulties surrounding the discontinuance of life-support systems in hopeless patient situations. One should also not confuse brain death and other forms of irreversible brain damage, particularly the vegetative state. Although such patients, best typified by Karen Ann Quinlan, may be thought to no longer function as human beings, bodily life can continue for months or even years. Such individuals are certainly not dead in the medical or biologic sense. How long is one obligated to maintain life-support systems for a brain-damaged person?

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When is the dying patient beyond help? When is the physician guilty of a grave moral and religious sin by not doing everything possible to "maintain" his patient? Just as one cannot properly define health as the absence of disease, it seems totally inappropriate to define death as the absence of life. Although society in general and the medical and legal professions in particular are struggling to come up with an acceptable definition of death, it seems desirable to review the Jewish religious definition of death.

Classic definition of death in Jewish law

The definition of death in Jewish law is first mentioned in the fifth century Babylonian Talmud. The Mishnah (Yoma 8:6-7) enumerates circumstances under which one may desecrate the Sabbath:

... every danger to human life suspends the [laws of the] Sabbath. If debris [of a collapsing building] falls on someone and it is doubtful whether he is there or whether he is not there, or if it is doubtful whether he is alive or whether he is dead or if it is doubtful whether he is an Israelite or a heathen, one must probe the heap of the debris for his sake [even on the Sabbath]. If one finds him alive, one should remove the debris but if he is dead, one leaves him there [until after the Sabbath].

The Talmud (Yoma 85a), commenting on the above Mishnah, states as follows:

... How far does one search [to ascertain whether he is dead or alive]? Until [one reaches] his nose. Some say: Up to his heart... life manifests itself primarily through the nose as it is written: *In whose nostrils was the breath of the spirit of life* (Genesis 7:22)...

The biblical and Talmudic commentator *Rashi* explains that if no air emanates from his nostrils, he is certainly dead. *Rashi* further explains that some people suggest the heart be examined for signs of life, but the respiration test is considered of greatest import.

The Palestinian Talmud (Yoma 8:5) quotes certain authorities who require "until one reaches the navel" but this is a minority viewpoint.

This rule from the Mishnah is codified by Maimonides as follows:

If upon examination no sign of breathing can be detected at the nose, the victim must be left where he is [until after the Sabbath] because he is already dead...²⁴

The famous Code of Jewish Law by Joseph Karo, known as *Shulchan Arukh*, states:

Even if the victim was found so severely injured that he cannot live for more than a short while, one must

probe [the debris] until one reaches his nose. If one cannot detect signs of respiration at the nose, then he is certainly dead whether the head was uncovered first or whether the feet were uncovered first.²⁵

Neither Maimonides nor Karo seems to require examination of the heart or navel, both mentioned as minority opinions in the Babylonian and Palestinian Talmuds, respectively. Cessation of respiration seems to be the determining physical sign for the ascertainment of death.

Another pertinent passage found in Karo's Code states as follows:

If a woman is sitting on the birthstool [ie, about to give birth] and she dies, one brings a knife on the Sabbath, even through a public domain, and one incises her womb and removes the fetus since one might find it alive.²⁵

Rabbi Moses Isserles adds to this statement:

However, today we do not conduct ourselves according to this [rule] even during the week [ie, even *not* on the Sabbath] because we are not competent to recognize precisely the moment of maternal death....

Several commentators explain that Isserles is concerned that perhaps the mother only fainted and incising her abdomen might kill her. Maimonides, five centuries earlier, had already raised the problem of fainting complicating the recognition of death when he stated:

... whosoever closes the eyes of the dying while the soul is about to depart is shedding blood. One should wait a while; perhaps he is only in a swoon...²⁶

However, both Maimonides and Isserles agree that the Talmudic description of death for all practical purposes is the absence or cessation of respiration. We are not primarily concerned with the extremely rare case of someone recovering from what appears to be the deceased state. Such an example is described in the Talmud (Semachot 8:1). Rather, Jewish law follows the rule of the majority.

Recent rabbinic writings on definition of death

Recent rabbinic opinions support the classic Jewish legal definition that death is established when spontaneous respiration ceases. Since respiration was thought to be dependent on cardiac activity, the definition would thus include absence of a heartbeat. Such an opinion was first expressed by Rabbi Moses Schreiber²⁷ who asserts that if a person is motionless like an inanimate stone and has no palpable pulse either in the neck or at the wrist, and also has no spontaneous respiration, his soul has certainly departed, but one should wait a short while to fulfill the requirement of Maimonides (*vide supra*) who was concerned that the patient may only be in a swoon. Rabbi Sholom Mordechai Schwadron²⁸ states that

if any sign of life is observed in limbs other than the heart and lungs, the apparent absence of spontaneous respiration is not conclusive in establishing death.

On the other hand, Rabbi Isaac Yehuda Unterman, stated that one is dead when one has stopped breathing. Thus, most Talmudic and post-Talmudic Sages agree that the absence of spontaneous respiration is the only sign needed to ascertain death. A minority would also require cessation of heart action. Thus a patient who has stopped breathing, says Unterman, and whose heart is not beating, is considered dead by Jewish law.

Rabbi Eliezer Yehuda Waldenberg²⁹ also defines death as the cessation of respiration and cardiac activity. One must use all available medical means to ascertain that respiratory and cardiac functions have indeed ceased. A flat electroencephalogram in the face of a continued heartbeat is not an acceptable finding by itself to pronounce a patient dead. Even after death has been established one should wait a while before moving the deceased. Rabbi Waldenberg cites a work entitled *Divrei Shaul* in which the author states that "It is clear to me like the sun that if we observe a patient and he appears dead, and has no respiration and no heartbeat which are the signs of life as explained in tractate Yoma, he is not alive any more and has the [legal] status of a dead person in all respects." Rabbi Waldenberg also discusses the issue of whether the seat of the soul resides in the heart or in the brain and cites Rabbi Zvi ben Yaakov Ashkenazy, known as *Chacham Tzi* (Responsum No. 77) who pointed out that this issue has been argued since the times of Galen, whose opinion was that the brain is the source of life, and Aristotle, who considered the heart to be more important than the brain.

Rabbi Moses Feinstein³⁰ states that if the brain is not functioning, death will occur because breathing will stop. Until the latter occurs, physicians may be able to resuscitate the patient, or prayers to God may avail. Hence, if one kills someone with no brain function who is still breathing, it is murder. The Talmud and Codes of Jewish law do not indicate, continues Feinstein, that the signs of life are in the brain, and it is illogical to say that the nature of man changed since, even in Talmudic days, the brain controlled all life-sustaining functions (ie, respiration) and, yet, cessation of brain activity was not considered to be the definition of death. In a patient without spontaneous respiration or heartbeat but with some electrical activity on an electroencephalogram, the rare possibility of resuscitation must be reckoned with. Although the respiration test is paramount, it is clear that "the nose is not the organ which gives life to a human being, nor is it the organ of respiration; rather the brain and the heart give life to man." The nose is the easiest place to recognize the presence of this life, concludes Feinstein, since a very weak pulse may not be detectable and brain activity is not easily measured on physical examination alone.

In a personal communication in 1967 a similar conclusion was expressed by Rabbi Immanuel Jakobovits who stated in part, that "The classic definition of death as given in the Talmud and Codes is acceptable today and correct. However, this would be set aside in cases where competent medical opinion deems any prospects of resuscitation, however remote, at all feasible."

Rabbi Aaron Soloveichik, in a very novel approach, states that death is a process that begins the moment spontaneous respiration ceases and ends when all bodily functions emanating from the controlling center, ie, the brain, end. This means that:

When a person in whom death is imminent becomes devoid of respiration but other bodily functions such as the brain are potentially operative, such a person is no longer completely alive but he is not yet dead: death has begun but the death process is not complete until the brain and heart completely cease to function. During this period, a person is in a state of semi-living, not fully alive but not fully dead. Anyone who kills such a person or who hastens his death is, therefore, guilty of murder. This is the reason why Maimonides rules that one is not allowed to move a dying person while his soul is departing until after one waits awhile. Maimonides refers to a person who is motionless and who has no spontaneous heartbeat or respiration. One must wait half an hour because his brain may still be operative and the patient potentially resuscitable. This "dying" person is in a semi-living state and, therefore, one is prohibited from doing anything which may hasten his death.³¹

Rabbi J. David Bleich³² traces the Jewish legal attitude concerning the definition of death from Talmudic through recent rabbinic times. He posits that brain death and irreversible coma are not acceptable definitions of death insofar as Jewish law is concerned since the sole criterion of death accepted by Jewish law is total cessation of both cardiac and respiratory activity. Even when these indications are present, there is a definite obligation to resuscitate the patient, if at all feasible. Bleich³³ also discusses the various time of death statutes already enacted into law in many states in this country and statutes being contemplated by other states. These statutes supplant the classical definition of death with more flexible criteria. Bleich voices concern about the fact that it is unlikely that Jewish opinion can succeed in stemming the legislative tide indefinitely. It is also unrealistic to believe that time-of-death statutes will accurately reflect even the most liberal of Jewish legal opinions. He expresses hope that civil and religious liberties be preserved by writing into such statutes a provision allowing for exemption from legislated definitions of death for reasons of conscience.

Several Jewish physicians,³⁴⁻³⁷ well-versed in Talmudic law and rabbinic writings, have written in detail about the Jewish legal definition of death.

They conclude that today one requires all three criteria cited by Rabbi Moses Schreiber²⁷ (*vide supra*), namely (1) absence of spontaneous respiration, (2) absence of a heartbeat in a patient who appears dead, and (3) is "motionless like an inanimate stone."

Rabbi Moses David Tendler³⁸ introduced the concept of brain stem death as an acceptable criterion for the definition of death even if cardiac function has not ceased. Tendler points out:

... that absent heartbeat or pulse was *not* considered a significant factor in ascertaining death in any early religious sources. Furthermore, the scientific fact that cellular death does not occur at the same time as the death of the human being is well recognized in the earliest biblical sources. The twitching of a lizard's amputated tail or the death throes of a decapitated man were never considered residual life but simply manifestations of cellular life that continued after death of the entire organism had occurred. In the situation of decapitation, death can be defined or determined by the decapitated state itself as recognized in the Talmud and the Code of Laws. Complete destruction of the brain, which includes loss of all integrative, regulatory, and other functions of the brain, can be considered physiological decapitation and thus a determinant per se of death of the person.

Loss of the ability to breathe spontaneously is a crucial criterion for determining whether complete destruction of the brain has occurred. Earliest biblical sources recognized the ability to breathe independently as a prime index of life . . . destruction of the entire brain or brain death, and only that, is consonant with biblical pronouncements on what constitutes an acceptable definition of death, i.e., a patient who has all the appearances of lifelessness and who is no longer breathing spontaneously. Patients with irreversible total destruction of the brain fulfill this definition even if heart action and circulation are artificially maintained.³⁹

Thus, according to Tendler, if it can be definitely demonstrated that brain stem death, not cerebral cortex or "brain" death, but actual brain stem death, has occurred, then the patient is legally dead in Jewish law because he is equated with a decapitated individual whose heart may still be beating but whose brain stem is irreversibly "dead." Brain stem function can be evaluated medically by evoked potential studies, isotope flow investigations, angiography, and caloric studies.

The Tendler position that "complete and permanent absence of any brain-related vital bodily function is recognized as death by Jewish scholars" is supported by a recent responsum of Rabbi Moses Feinstein.⁴⁰ The latter states that if by injecting a substance into the vein of a patient, physicians can ascertain that there is no circulation to the brain, meaning no connection between the brain and the rest of the body, then that patient is legally dead in

Judaism because he is equivalent to a decapitated person. Where the test is available, continues Feinstein, it should be used.

Tendler's arguments generated considerable discussion⁴¹ and controversy. Rabbi Aaron Soloveichik⁴² attacked the Tendler position as a serious misinterpretation of Jewish law, an attack refuted by Tendler himself.⁴³ An opposing viewpoint on brain death⁴⁴ asserted that "cessation of total brain function, whether irreversible or not, is not necessarily linked to total destruction of the brain or to the death of the person. Further, to take vital organs or to otherwise treat people as though they were dead already on the basis of these recent criteria is morally unacceptable to most Orthodox Jews and Christians". This firm criticism of Tendler's thesis was somewhat tempered by an accompanying editorial⁴⁵ and a response by Veith and Tendler.⁴⁶ However, Tendler maintains his position that total and irreversible cessation of brain (stem) function as determined by the Harvard criteria or their more recent modifications is equivalent to total destruction of the brain and, hence, tantamount to functional or physiologic decapitation, a condition that most lay and religious ethicists—and indeed most persons—can equate with death.

Conclusion

Guidelines for the determination of death continue to be proposed, discussed, and debated.^{47,48,49} It is axiomatic in Judaism that human life is of infinite worth. The taking or the shortening of a human life is, therefore, ethically wrong and constitutes an act of murder. "When does life end" is an issue presently being actively discussed.

All rabbis agree that the classic definition of death in Judaism is the absence of spontaneous respiration and heartbeat in a patient with no bodily motion. A brief waiting period of a few minutes to one-half hour after breathing has ceased is also required. In the present era, when it is recognized that hypothermia or drug overdose can result in depression of the respiratory center with absence of spontaneous respiration and even heartbeat, this classic definition of death is insufficient. Hence, wherever resuscitation is deemed possible, no matter how remote the chance, it must be attempted. Cerebral death is not generally accepted by rabbinic scholars to be a criterion for establishing death other than to confirm death in a patient who already has irreversible absence of spontaneous respiration and no heartbeat. The only exception may be the situation of decapitation where immediate death is assumed even if the heart may still be briefly beating. Irreversible brain stem death as evidenced by sophisticated medical testing is the Jewish legal equivalent of decapitation and is presently a matter of intense debate in rabbinic circles.

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