The Definition of Death: Legal vs. Medical
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Although technological advances have caused traditional definitions of death to be altered, there still remain decided variances between the legal and medical interpretations. The authors review present “brain death” concepts and outline currently accepted standards.

Many CRNAs today are faced with the task of providing anesthesia or maintenance of vital organ systems in a cadaver-donor body. A question which haunts the medical practitioner as well as the legal practitioner is the definition of death. The discrepancy and unclarity between legal and medical definitions appear to be variable in each state. A uniform, acceptable definition of death by both the legal and medical communities is still far from view.

The legal definition appears as an inclusive concept, involving a ceasing of all vital functions and the impossibility of resuscitation. The medical definition of death is unclear and, until recently, without guidelines. Arrival of new technological advances and new life-saving devices in the areas of resuscitation, hypothermia, extracorporeal circulation, and surgical transplant of organs has left the medical definition subject to controversy and chance. When is the person dead?

Before one can define death, it first becomes necessary to define life. Life can be considered as a state of energy or function, forever resisting decay and dissolution. The “living” body continues to produce new cells, new energy, and functions as an integral unit. Death can be considered as the cessation of life, the stopping of energy and function. Death, therefore, is the antithesis of life. Life ends at the precise time that death begins.

Historical background
Historically, from ancient times to the recent past, it was clear that when breathing ceased and the heart stopped, the brain would die in a few minutes. When these criteria were considered in a person, it was accepted that the person was dead. The major criteria for death was the absence of heart beat. In those times, the heart was considered the central organ of the body and, thus, life. With the advent of modern resuscitative and supportive measures, this definition could no longer be held valid. These measures can now restore “life” as defined in ancient times without the remotest possibility of a person recovering consciousness following brain death.¹

Under common law, death was considered as the cessation of life. No real issue was raised as to when life ceased to exist. Once again, this has only been a recent question among the various disciplines.
The definition of death as found in Black's Law Dictionary was acceptable to all disciplines, that is, to physicians, lawyers, and theologians, until developments of the past few years caused the definition to be questioned. Black's Law Dictionary states that death “...is the cessation of life; the ceasing to exist; defined by physicians as a total stoppage of the circulation of the blood and cessation of the animal and vital functions consequent thereon, such as respiration, pulsation, etc....”

The brain-oriented concept of death developed from a need to decide whether a person was dead when his brain ceased to function or when all major organs permanently ceased to function. The importance of this concept arose not only with the development of organ transplantation but also because of the concern not to prolong life biologically when the personal life had ceased. The elusive definition of death, either brain death or organ death, necessitated the American Medical Association in 1975 to issue the following statement regarding the prolongation of life:

“The intentional termination of life of one human being by another—mercy killing—is contrary to that for which the medical profession stands and is contrary to the policy of the American Medical Association. The cessation of the employment of extraordinary means to prolong life of the body where there is irrefutable evidence that biological death is imminent is the decision of the patient and/or his immediate family. The advice and judgment of the physician should be freely available to the patient and his immediate family.”

Brain death defined

An organ, whether it be the brain, heart, lung, or other, is dead when it has ceased to function. One must then determine the characteristics of a permanently disfunctioning brain. This was defined in 1968 in the “Report of the Ad Hoc Committee of the Harvard Medical School to Examine the Definition of Brain Death.” This report states that the condition can be satisfactorily determined by the following conditions:

1. Unreceptivity and unresponsiveness. There is a total unawareness of external stimuli. Even painful stimuli do not evoke a groan.
2. No movements or breathing. This information is obtained by observing the patient for one hour as to any spontaneous muscular movement. Lack of spontaneous breathing can be assessed by
turning off the respirator for three minutes and looking for any effort in spontaneous breathing. Carbon dioxide and oxygen blood levels must be within the normal range so that the basic respiratory drives are present.

3. No reflexes. Abolishment of central nervous system activity is evidenced by the absence of all reflexes. The pupils will be dilated and will not respond to a bright light. Eye movement and blinking are absent. All other limb reflexes also are absent.

4. Flat electroencephalogram. This should be recorded for at least 10 minutes and repeated in 24 hours with no change. The validity of the EEG as an indication of cerebral death depends on the exclusion of two conditions: (a) lower than normal body temperatures, and (b) the presence of central nervous system depressants such as barbiturates.

Sample medical record

A typical example of what might be contained in the medical records of a brain-dead patient when it is wished to procure organs for transplant follows.

A 45-year-old man underwent cardio-respiratory resuscitation 24-hours ago. Blood pressure has been maintained on dopamine. The body temperature is 94.6 F. The kidneys secrete urine. He is flaccid. No corneal, coughing or swallowing reflexes are present. There are no respiratory efforts when the respirator has been discontinued for five minutes. There is no sign of drug ingestion. There is no oculo-cardiac reflex nor is there any response to 1 mg of atropine intravenously (no change in pulse rate). The pupils are fixed and dilated, and the EEG responses are flat at 24 hours. OPINION: Mr. X is dead because his brain is dead. He is a fitting subject for organ donation. Supportive measures should be logically discontinued.

The evaluation must be made by a physician not involved in the procurement of transplant organs, such as a neurologist, and the evaluation and determination must be done before the harvesting of the organs for transplant. The CRNA must check that this type of documentation is on the chart before the patient enters the operating room. A time of brain death must also be determined and recorded on the chart before the cadaver donor is permitted to enter the operating room.

When this criteria has been met and the family informed of the situation by the physician, death is to be declared and later the respirator is to be turned off. The decision to do this is to be made by the physician involved. There should be consultation with one or more other physicians involved in the case. It is felt undesirable to force the family to make the decision.

Mills states that, "Brain death is an important concept. It can reduce the agonies and expenses associated with prolonged maintenance of vegetative bodies. It can give transplant recipients great hope for survival and help because viable organs can be harvested. But uncertainty about its legal status is causing unnecessary problems." He does not advocate an explicit definition of brain death: "... the only need is to establish the legality of the concept of brain death."

The brain-oriented definition of death has involved a basic intellectual decision: human biological life is not the same as human personal life. The brain-oriented definition of death presupposes that the brain is the seat of the mind or soul. This definition of death helps give us some answers to some basic questions: When is a person dead so that further prolongation of life is not prolonging "one's" life? When is it possible to use a body for the benefit of another because it is no longer anyone's body?

Modern statutes defining death

The Kansas Statute of 1970, the first state to define death, distinguished between human biological life and human personal life. One pronounces death
before one turns off the respirator or removes a vital organ. Therefore, this cannot count as euthanasia or letting a person die because there is no person to let die. The person is already dead.8

Criticism has been leveled against the Kansas Statute in that it also includes the conservative definition of death as stated by Black’s Law Dictionary which was mentioned earlier. But, the Kansas Statute simply offers two ways to measure the same event. Allowing the traditional definition of death to continue was a recognition that one need not always determine directly when brain death does occur. When there is human biological death, the brain dies as well and so does the person. The traditional definition of death is just an indirect way of deciding brain death.

Englehart states that conflicts between the medical and legal definition of death, when they exist, reflect a failure of the law to recognize medical advances in identifying criteria for death, or a failure of the medical community to communicate the significance of such criteria.3 The use and withdrawal of extraordinary means usually involves three different types of patients: (1) those with brain death, (2) those with terminal illnesses and whose death is imminent, and (3) those who are chronically vegetative and comatose.4

Patients in the second category are conscious and can decide for themselves whether employing extraordinary means will inflict a burden or hardship on themselves and their families. If such patients are responsible adults, they can refuse any method of treatment and this is ethically and legally recognized.

Patients in the third category have been the focus of the debate of death with dignity because they are unable to decide the best course of treatment but do not fall into the brain death category. Criteria for the physician and family do exist for this category of patient which involve two major issues: the nature of therapeutic treatment and the nature of the patient-physician relationship.4

Therapeutic treatment is designed to return the patient to a human life existence. A physician’s responsibility does not oblige him to prolong the life process but rather to provide comfort and good clinical judgment.4

The patient’s right to refuse medical treatment is legally binding if he is a responsible and competent individual. The Law of Torts states that a person—if considered competent—has the right to refuse any treatment or even cure if it entails for him intolerable risks.7

CRNA’s as well as others in medicine must be aware of the legal and medical implications of brain death as a definition of death. The current, acceptable medical practice of brain death would include the following:

1. A neurological evaluation must be made by a physician other than the patient’s primary physician.

2. The neurological evaluation must include: (a) Unreceptivity and unresponsiveness, (b) No movement or breathing, (c) No reflexes, (d) Flat EEG in 24 hours, and (e) The patient must be normothermic and have no history of drug ingestion.

3. A time of brain death must be determined before the respirator is turned off or the cadaver is taken to the operating room for organ harvesting.

4. All the above information must be documented in the patient’s permanent medical records.

By following these guidelines the CRNA can help to ensure his or her own medical-legal accountability when involved with a cadaver donor transplant. Perhaps, someday both disciplines will unite and arrive at one definition of death. Until such time, we have no choice but to work towards a unified definition. Although the concepts may be similar, they are not identical and only continued efforts between both disciplines will permit us to arrive at one definition.

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REFERENCES


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The opinions stated in this article are those of the authors and are not reflective of official opinions of the Department of Defense and Department of the Army.

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Maj. Wehner, who has published widely, recently had one of his case study's printed in the AANA Journal.

ADDITIONAL READING


(2) United Trust Co. vs Pype. 199 Kan. 1, 427 p. 2d 6771. (1967).


