
Significant Differences Exist In Protocols Hospitals Use To Determine Brain Death

"We were surprised to find such significant differences among these hospitals in terms of their specified guidelines for brain death determination," says David Greer, MD, of the Massachusetts General Hospital (MGH) Neurology Service, who led the study. "In reviewing the protocols, we would have anticipated more consistency with the American Academy of Neurology practice parameters."

The concept of brain death -- irreversible loss of function in the entire brain -- was first established in the 1960s, and in 1981 a Presidential Commission confirmed that brain death was the legal equivalent of more traditional standards, such as the cessation of heart and lung function. The Uniform Determination of Death Act, which has been enacted by most U.S. states, specifies that guidelines for determining death "be made in accordance with accepted medical standards," and in 1995 the AAN published practice guidelines based on an evidence-based review of the literature and best practices.

Greer and his collaborators from Mayo Clinic and Henry Ford Hospital designed their study because of their own perceptions that major discrepancies could exist among guidelines at different hospitals. They contacted representatives of the top 50 neurology and neurosurgery programs, listed in the U.S. News 2006 Best Hospitals issue, requesting copies of their institutional guidelines for determining brain death. Of the 41 programs that responded, 3 did not have written guidelines, leaving 38 programs' responses to be evaluated.

The study identified significant differences among the responding hospitals' guidelines, including several discrepancies from the AAN guidelines. Among these were specifications regarding the specialty and level of training required for physicians authorized to determine brain death, conditions that need to be met -- such as confirming that potentially reversible factors were not responsible for a patient's condition -- before specific testing took place, and the type and timing of examinations used to determine brain death.

"While our study was not designed to evaluate the actual practices at these institutions, which are among the leading hospitals in the country, our guess is that most of them try to adhere to their hospital's policies," Greer says. "We feel it is time for the previous AAN guidelines to be revised and made more explicit and possibly to create a web-based checklist that can help physicians perform brain death determination. We would hope that major institutions would then endorse these guidelines without further major modifications."

Greer is an assistant professor of Neurology at Harvard Medical School. His co-authors are Panayiotis Varelas, MD, PhD, and Shemael Haque, DO, MPH, Henry Ford Hospital, Detroit; and Eelco Wijdicks, MD, Mayo Clinic.

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