

TEN INTRODUCTORY LECTURES ON BIOETHICS

# DEFINITION OF DEATH

Bonnie Steinbock

University at Albany (emerita)

Distinguished Visiting Professor, CUHK Centre for  
Bioethics

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# THREE ISSUES

- The definition/concept of death
  - Death is the end/opposite/termination of life
    - This has not changed
- The criteria for determining that death has occurred
  - Cardiovascular
    - Permanent cessation of function of heart and lungs
  - Neurological
    - Permanent cessation of neurological activity: brain death
- Clinical tests to determine if criteria have been met
  - Cardiovascular: check pulse, breathing
  - Neurological: absence of pupillary response, confirmed by EEG

# FROM CARDIOVASCULAR TO NEUROLOGICAL

- Brain death a better indicator of death than cardiovascular criteria
  - Respirators can breathe for patients whose lungs have stopped functioning; electric paddles can re-start a heart
    - No way to “re-start” a brain that has flat-lined
  - Is brain death more reliable?
  - Suzanne Chin (2009)
    - Hong Kong lawyer suffered heart attack, doctors said she had brain stem death, but woke up 3 days later
- Organ donation
  - Using neurological criteria enables transplant surgeons to remove vital organs fast before they deteriorate and become unusable
  - Once the brain dies, all other criteria of death inevitably follow. Why wait, wasting the organs and using respirators for those who cannot benefit from them?

# US LAW AND POLICY

- Beecher Committee of Harvard Medical School (1968)
  - Patients on life support whose brain function has completely and irreversibly ceased should be declared dead and removed from respirator
- Uniform Determination of Death Act (UDDA)
  - Based on report from Presidential Commission (1981)
  - Requires the death of the whole brain, not just brain stem
    - In UK and Hong Kong, brain stem
  - Now whole-brain death the law in all states except NJ

# BERNAT'S DEFENSE OF WHOLE-BRAIN DEATH

- Fits best with common, ordinary meaning of death
  - Biological, not social
  - Applies to organisms, not persons
  - An event, not a process; occurs at a moment in time
  - An all-or-nothing concept
- The irretrievable loss of the organism's **emergent functions**, including consciousness, control of circulation, respiration and temperature control, produces loss of the critical functioning of the organism *as a whole* and is therefore the death of the organism
- Since these emergent functions are controlled by brain stem and neocortex, the death of the whole brain results in the death of the organism

# CRITICISMS OF BRAIN DEATH

- Doesn't seem to fit ordinary concept of death
  - “Brain-dead” patients don't look dead; not cold and stiff
- Idea that the brain is the body's “critical system” is mistaken (Shewmon)
  - Individuals who are “brain-dead” exhibit several functions of living organisms
    - Digest food, excrete waste, their wounds heal, undergo sexual maturation, some have even gestated fetuses and given birth
  - “Brain-dead” patients retain essential neurological functions, such as regulated secretion of hypothalamic hormones
- Brain death is not biological death

# JAHI MCMATH

- 13-year old Oakland, CA girl, suffering from sleep apnea, underwent tonsillectomy
- Went into a coma, then diagnosed as brain dead
- Pronounced legally dead in December 2013
- Family refused to accept that she was dead
  - Deny she's brain dead
  - Reject brain death as correct criterion
- Moved her to a facility in NJ, which allows families to choose criteria of death, where she remains on life-support today
  - She's alive in NJ but would be dead in NY
- Is she dead? As good as dead? Not dead at all?

# BACK TO CARDIOVASCULAR CRITERIA?

- If brain death is not biological death, should we revert to cardiovascular criteria?
- Could have very bad consequences
  - Could destroy cadaver organ donation, at a cost of tens of thousands of lives worldwide
  - Neurological criteria well established clinically and in law
- Is there a way to acknowledge that brain death is not biological death and keep neurological criteria?

# BRAIN-DEAD ARE AS GOOD AS DEAD

- Truog and Miller suggest analogy with “legally blind,” defined as corrected visual acuity of 20/200
  - Someone who is legally blind can see; not literally blind
  - For legal purposes, we treat them *as if* they were blind
- We can treat those who are brain-dead as if they were biologically dead
  - Brain-dead are permanently unconscious; have lost what is valuable in life
  - They are as good as dead, though not literally dead
- More honest to acknowledge that they are not really biologically dead

# PROBLEMS WITH AS GOOD AS DEAD

- Seems to apply not only to brain-dead but also PVS patients, who are also permanently unconscious, have lost what's valuable in life
- Some accept this implication; offer radical redefinition of death as absence of personhood
  - Supported by some, e.g., Robert Veatch, Jeff McMahan, but nowhere accepted in law
- Slippery slope
  - Anencephalic infants? Other severe congenital anomalies? Is there a principled way to draw the line?

# THE DEBATES

- Cardiovascular vs. neurological criteria
- Within neurological criteria
  - Whole-brain vs. brain stem
  - Either of these vs. higher-brain (neocortex)
- Can neurological criteria be defended on biological grounds?  
Bernat v. Shewmon, Truog and Miller
- Should neurological criteria be defended on utilitarian grounds:  
organ donation
- Is death a primarily biological phenomenon or  
cultural/religious/philosophical?
- Individual or social decision? Do we need a uniform standard?

# FURTHER PHILOSOPHICAL QUESTIONS

- Debate over criteria for death dependent on conceptions of our nature
  - Are we human organisms?
    - Our death is no different from that of other animals
  - Or are we basically persons, that is, conscious, feeling, thinking beings?
    - Once the capacity for consciousness permanently lost, the life of the person is at an end
- Thus, debate over the definition of death raises philosophical questions about personal identity, or when an individual human being begins and ends