Ethical Challenges With Documenting Brain Death

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2015 Doug Miller Symposium
Wisconsin Dells, Wisconsin
When are You Dead?
Church Of
The Cross

DON'T LET WORRIES
KILL YOU
LET THE CHURCH
HELP

United Methodist Church
History of Brain Death

• 1959 – Mollaret & Goulon describe 23 patients who lost consciousness, brain stem reflexes, and respirations. The patient’s EEGs were flat.

• 1968 – Harvard Medical School ad hoc committee define “brain death” with a known cause
  1) unreceptivity and unresponsiveness;
  2) absence of movement and breathing; and
  3) absence of brain stem reflexes.
History of Brain Death

• 1976 – Conference of Medical Royal Colleges publish guidelines including refined apnea testing and pointed to the brain stem as the center of brain function: without it no life exists.

• 1981 – President’s Commission for the Study of Ethical Problems in Medicine publish its guidelines including irreversible loss of cortical and brain stem function, recommending use of confirmatory tests and warning about complicating conditions.
History of Brain Death

- 1995 – American Academy of Neurology publishes “Practice Parameters for Determining Brain Death in Adults.”

History of Brain Death

National Law


• In a prefatory note the Commissioners state, “This act is silent on acceptable diagnostic tests and medical procedures. It sets the general legal standard for determining death, but not the medical criteria for doing so.”
Wisconsin Law

- 146.71 Determination of death. An individual 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. A determination of death shall be made in accordance with accepted medical standards.
UW OTD SOP

• OPO staff must verify that the death pronouncement satisfies the following:
  – Hospital policy
  – State law
  – OPO policy
Man declared dead, says he feels 'pretty good'

Zach Dunlap says he feels "pretty good," four months after he was declared brain dead and doctors were about to remove his organs for transplant.

Dunlap was pronounced dead November 19 at United Regional Healthcare System in Wichita Falls, Texas, after he was injured in an all-terrain vehicle accident. His family approved having his organs harvested.

As family members were paying their last respects, he moved his foot and hand. He reacted to a pocketknife scraped across his foot and to pressure applied under a fingernail. After 48 days in the hospital, he was allowed to return home, where he continues to work on his recovery.

CNN.com, March 24, 2008
Case Study

• 32 yo ICH due to ruptured aneurysm, HD 1 neuro-surgery attempts a coiling and places patient in hypothermic state.

• HD 3 pt being warmed and is referred to OPO for evaluation as there are no reflexes present

• While in OPO en route, neuro surgeon comes in and documents a complete clinical exam with an apnea test (but he did not do blood gasses)
Case Study Continued

• When DC arrives at hospital, RN informs DC the patient is declared by Dr. X and told the family. Pt is a registered donor and family wants to donate.

• Two hours later nurse informs DC that patient gagged while suctioning.

• RN and DC go in to evaluate patient and the following reflexes present: pupils, cough, breathes over the vent

• DC looks at NS note and discovers no temp was recorded nor formal apnea test done. Temp was 34.
Case Study Continued

• DC and RN call NS who states they are wrong, “He knows what dead is” and refuses to come back to re-examine patient.

• DC calls OPO Administrator On Call (AOC) and explains situation. AOC calls NS, who again states this person is dead and not to bother him again.

• AOC collaborates with RN, DC and nurse supervisor.
Case Study Continued

• Chief of Neurology was contacted and agrees to re-examine the patient.
• Upon re-examination, patient does not meet BD criteria.
• Neurologist speaks with family and they understand and agree to wait 24 hrs.
• HD 4 patient herniates - neurologist and intensivist independently confirm with clinical exams and two complete apnea tests.
Case Study Continued

• Pt declared and donates organs and tissues.
• Case was referred to Chief of Medical Affairs and Risk Management.
• NS apologized to RN and DC and lost privileges to pronounce death by neurological criteria.
Questions

1. Since the 2010 AAN guidelines were published for determining brain death, what has been the practice for documenting donor death as seen in the OPO copied death notes?

2. How variable is the practice from OPO to OPO?
Questions Continued

3. How variable is the practice from hospital to hospital?

4. What, if any changes, need to be made to current standards and survey practice?
Methods

1. Standards and Accreditation (S&A) Committee
2. Separate review of brain death documentation using the AAN guidelines during accreditation surveys
3. 10 OPOs from 7 different UNOS regions
4. Reviewed 101 brain dead donors declared by neurological criteria
5. When compiling data, no specifics known other than who recovering OPO was
**Brain Death Score Grid**

**BRAIN DEATH DOCUMENTATION**
Instructions: Check each box when the death note contains the information described on the grid. Leave box blank if information described is NOT present in the death note. See additional instructions for boxes H, I, and J.

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Date/time</td>
<td>MD signature</td>
<td>Statement of comatose state</td>
<td>Normotensive MAP &gt; 65 or Systolic BP &gt; 100</td>
<td>Normothermic Temperature &gt; 36°C</td>
<td>CNS depressant or paralytic drug effect</td>
<td>Absence of severe metabolic abnormalities</td>
<td>All brain stem reflexes documented as absent</td>
<td>Apnea test documented with starting and ending PCO2</td>
<td>Ancillary test documented</td>
</tr>
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Box H: Check when all brain stem reflexes are documented as being part of the clinical exam (pupils, corneas, oculocephalic, oculovestibular, pain, gag, cough, motor response). Do not check box if any cranial reflex is not documented unless there is an explanation why test could not be done (e.g., eyes too swollen to test).

Box I: To check this box, documentation of the PCO2's must be present. If apnea test does not include the starting and ending PCO2's with a statement of absence of respirations do not check this box.

Box J: Check this box (CBF, Angio etc) box when the brain death note refers to the test, or incorporates the test and there is a copy of the test in the donor record. If the copy of the ancillary test report is not included do not check the box.
• Check each box when the death note contains the information described on the grid. Leave box blank if information described is NOT present in the death note.

A. Date/time
B. MD signature
C. Statement of comatose state
Brain Death Score Grid

D. Normotensive MAP > 65 or Systolic BP > 100
E. Normothermic Temperature > 36 C
F. CNS depressant or paralytic drug effect
G. Absence of severe metabolic abnormalities
Brain Death Score Grid

- Check when all brain stem reflexes are documented as being part of the clinical exam (pupils, corneas, oculocephalic, oculovestibular, pain, gag, cough, motor response). Do not check box if any cranial reflex is not documented unless there is an explanation why test could not be done (e.g., eyes too swollen to test).

H. All brain stem reflexes documented as absent
Brain Death Score Grid

• To check this box, documentation of the PCO2's must be present. If apnea test does not include the starting and ending PCO2s with a statement of absence of respirations do not check this box.

  I. Apnea test documented with starting and ending PCO2
Brain Death Score Grid

- Check this box (CBF, Angio etc) when the brain death note refers an ancillary test, or incorporates the test finding and there is a copy of the test in the donor record. If the copy of the ancillary test report is not included do not check the box.

J. Ancillary test documented
## National Findings

### BRAIN DEATH DOCUMENTATION

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<tr>
<td>100%</td>
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<td>38%</td>
<td>50%</td>
<td>57%</td>
<td>69%</td>
<td>75%</td>
<td>90%</td>
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National Findings

- Date/time (100%)
- MD signature (100%)
- Statement of comatose state (48%)
- Normotensive MAP > 65 or Systolic BP > 100 (48%)
- Normothermic Temperature > 36 C (38%)
National Findings

- CNS depressant or paralytic drug effect (50%)
- Absence of severe metabolic abnormalities (57%)
- All brain stem reflexes documented as absent (69%)
- Apnea test documented with starting and ending PCO2 (75%)
- Ancillary test documented (90%)
National Findings

22/101 (22%) - all required elements
79/101 (79%) - one or more elements missing
21/101 (21%) - one element missing
20/101 (20%) - two elements missing
10/101 (10%) - three elements missing
28/101 (28%) - four or more elements missing
Observations

1. One OPO had significantly more donors where 4 or more criteria were missing.

2. All OPO’s had at least one with 4 or more criteria missing.

3. Every OPO had at least 1 with all criteria present
4. Within OPO’s there is great variation from hospital to hospital.

5. Twenty of the 22 death notes with all the criteria present were in hospitals that used checklists. Checklists are more effective than freehand progress notes.

6. If AAN guidelines were the AOPO Standard used, all OPO’s would fail the standard.
1. Reviewed five brain dead donors declared by neurological criteria using AAN guidelines

2. Donors from 2012-2014

3. Five different hospitals

4. Randomly chosen (unknown)
DSA Findings

- Date/time (100%)
- MD signature (100%)
- Statement of comatose state (80%)
- Normotensive MAP > 65 or Systolic BP > 100 (40%)
- Normothermic Temperature > 36 C (80%)
DSA Findings

- CNS depressant or paralytic drug effect (80%)
- Absence of severe metabolic abnormalities (60%)
- All brain stem reflexes documented as absent (60%)
- Apnea test documented with starting and ending PCO2 (40%)
Case Presentation

- Neurosurgery deemed non-survivable
- Admitted to SICU
- Family given poor prognosis
- HD #2 – the patient appears clinically brain dead
  - Complete exam performed, including apnea
  - Nuclear brain flow study ordered
Case Presentation

Now what???
Case Presentation

- Team huddle discussed plan to wait until next day and repeat 2nd complete clinical exam and not to repeat flow
- HD 3 – family says father coming in next day, decision to wait before performing repeat clinical exams
Case Presentation

• HD #4 – Second clinical exam completed including apnea
• Onsite TC informs that brain death cannot be pronounced with two clinical exams and positive brain flow study
• Would need to proceed as DCD donation