### Brain Death Examination Form for Adults Age 18 and Older

*(Trauma patients age > 15 and < 18 may use either adult or pediatric guidelines.)*

**Part 1. Notify WRTC prior to brain death examination or testing.**
- WRTC notified? □ Yes

**Part 2. Prerequisites (ALL prerequisites must be met)**
- Irreversible and identifiable cause of coma: □ Traumatic Brain Injury (TBI) □ Stroke □ Other:

<table>
<thead>
<tr>
<th>Examination One</th>
<th>Examination Two</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date:</td>
<td>Date:</td>
</tr>
<tr>
<td>Time:</td>
<td>Time:</td>
</tr>
</tbody>
</table>

Each choice either "meets" or "does not meet" the standard prerequisites for declaration of death by neurologic criteria →

<table>
<thead>
<tr>
<th>Systolic Blood Pressure ≥ 90 mmHg</th>
<th>Prerequisite Met</th>
<th>Prerequisite NOT Met</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body Temperature ≥ 35°C (95°F)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No significant sedative/analgiesic or drug effect</td>
<td></td>
<td></td>
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<tr>
<td>No significant metabolic/electrolyte abnormalities</td>
<td></td>
<td></td>
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<tr>
<td>No neuromuscular blockade effect</td>
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<td></td>
</tr>
</tbody>
</table>

**Part 3. Physical Examination**
- Consistent with Brain Death □ NOT Consistent with Brain Death □

<table>
<thead>
<tr>
<th>Responsiveness/movement (excluding spinal reflexes)</th>
<th>Consistent with Brain Death</th>
<th>NOT Consistent with Brain Death</th>
</tr>
</thead>
<tbody>
<tr>
<td>No responsiveness (deeply comatose)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absent movement (no spontaneous movement, no response to painful stimuli, no posturing)</td>
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</tbody>
</table>

**Evidence of absent brainstem function**

<table>
<thead>
<tr>
<th>Absent pupillary light reflex</th>
<th>Consistent with Brain Death</th>
<th>NOT Consistent with Brain Death</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absent corneal, gag, cough reflexes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absent oculovestibular reflex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absent oculocephalic reflex (NA = not applicable)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Part 4. Apnea Test**

- High spinal cord injury present? □ Yes □ No (If yes, do not perform apnea test. Ancillary test required.)
- Pretest PaCO₂: _____ mmHg  Posttest PaCO₂: _____ mmHg  Duration of test: ______ minutes
- Respiratory effort? □ Yes □ No
- Apnea test confirms apnea? □ Yes □ No

**Part 5. Ancillary Testing (if necessary)**

Ancillary tests (Cerebral Angiography or Radionuclide Imaging) – Required when minimum clinical criteria not met and full clinical examination unable to be performed (with exception for oculocephalic reflex).

- Ancillary testing performed? □ Yes □ No
- Absence of intracerebral blood flow demonstrated by:
  - □ Cerebral angiography  □ Radionuclide (nuclear) angiography

**Part 6. Signatures**

**Examiner One:** I certify that my examination is consistent with brain death. Second exam pending.

- Printed name: __________________ Signature: __________________ Date: ________ Time: ________

**Examiner Two:** I certify that my examination confirms brain death at the date and time listed below.

- Printed name: __________________ Signature: __________________ Date: ________ Time: ________
## Information for Completing the Determination of Brain Death Assessment

### Clinical Criteria | Details
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Notify WRTC (703-641-1000) | The clinical team should notify WRTC of any patient on whom brain function testing is being considered.

**Date** | Date of examination.

**Time** | For children less than 18 years of age and 31 days of age or older (at least 36 week gestation):
- Two separate clinical exams must be performed at least 12 hours apart.
- For infants age 30 days or less and older than seven days of age (at least 36 week gestation):
- Two separate clinical exams must be performed at least 24 hours apart.
- For adults age 18 and older and trauma patients age 15 and older: Two separate exams must be performed by two physicians independently, with no specified time interval. For non-trauma patients less than 18 years of age, please use the Pediatric brain death examination form.

**Systolic blood pressure** | SBP should be equal to or greater than 90 mmHg in adults & greater than the age appropriate minimum in newborns, infants, and children.

**Body temperature** | Body temperature should be greater than or equal to 35 degrees C (95 F) prior to physician exam for adults and children.

**Neuroactive drugs worn off** | e.g. narcotics, sedatives, barbiturates, atropine, etc.

**Absence of confounding factors** | There should be absence of severe electrolyte, metabolic or endocrine abnormalities. The acceptable range for serum sodium is between 130 and 155 mEq/L.

### Physical examination requirements

**No responsiveness** | Patient should be deeply comatose with no responsiveness to noxious stimuli (e.g. supracrinal, external pressure).

**Absent movement** | Patient should not demonstrate any movement (spontaneously or to painful stimuli), including seizures, shivering, or posturing. Neuromuscular blocking agents and sedatives must be worn off. Spinal reflexes, including Babinski, are not indicative of brainstem function and hence may coexist with a diagnosis of brain death.

### Evidence of absent brainstem function

**Absent pupillary light reflex** | Bilateral absent pupil reflexes. (Note: Pupil reflexes may be absent after eye injury, neurovascular blockers, atropine, mydriatics, scopolamine, opiates.)

**Absent corneal, gag, cough reflexes** | Cough response best assessed by deep bronchial suction.

**Absent oculcephalic reflex (Doll's eyes)** | Elicited by rotating the head briskly. A normal response (present reflex) is conjugate deviation of the eyes to the side opposite of the direction in which the head is turned. May omit this test with known or suspected cervical spine injury ("NA" choice).

**Absent oculovestibular reflex** | With head of bed at 30 degrees, instill 50ml of iced water into ear canal. Normal response (i.e. present oculovestibular reflex) is tonic deviation of the eyes toward the irrigated ear. Nystagmus in either direction should be absent in brain death.

### Perform an apnea test per operating unit's Respiratory Care policy manual.

**Guidelines for clinician**:
1. Confirm prerequisites are met: 1) normotension, 2) normothermia (≥ 35°C), 3) euolemic, 4) eucapnia (PaCO₂ 35-45 mmHg), 5) absence of hypoxia, and 6) no prior evidence of CO₂ retention (i.e. as seen in COPD, severe obesity)
2. Preoxygenate
3. Obtain baseline ABG
4. Disconnect ventilator while preserving oxygenation
5. Observe for respiratory movements for 8 - 10 minutes (may be shorter in pediatrics)
6. Criteria to abort test: presence of respiratory movements, systolic blood pressure <90 mmHg or age appropriate minimum in pediatrics, SpO₂ <95% for >30 seconds, or new cardiac arrhythmias. Send an ABG before reconnecting ventilator
7. If there is no respiratory effort, check PaCO₂ by ABG, one or more times as necessary, after a minimum of 8 minutes (may be shorter in pediatrics)
8. Reconnect ventilator if PaCO₂ meets apnea criteria or for criteria in #6
9. Positive test = patient is apneic and PaCO₂ is greater than or equal to 60 mmHg or 20 mmHg increase in PaCO₂ over a baseline normal PaCO₂ regardless of the time duration of testing
10. Negative test = respiratory movements are observed
11. Inconclusive test = PaCO₂ does not meet apnea criteria or test aborted without checking PaCO₂. Consider repeating test for a longer period of time or obtaining an additional ancillary test

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### Patient Identification

If label is not available, please complete:

- **Patient Name:**
- **Date of:**
- **Medical:**
- **Birth:**
- **Record #:**
- **Gender:** MaleFemale

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