

Brain Death Examination Form for Adults Age 18 and Older *
 (*For Trauma Patients Age 15 or Older, May Use Either Adult or Pediatric Guidelines)

Part 1. Notify WRTC prior to brain death examination or testing. WRTC notified? <input type="checkbox"/> Yes				
Part 2. Prerequisites				
Irreversible and identifiable cause of coma: <input type="checkbox"/> TBI <input type="checkbox"/> Stroke <input type="checkbox"/> Other:				
	Examination One		Examination Two	
	Date:	Time:	Date:	Time:
Blood Pressure > 90 mmHg	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Body Temperature > 35 ⁰ C (95 ⁰ F)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Significant sedative/analgesic or drug effect excluded	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Significant metabolic/electrolyte abnormalities excluded	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Neuromuscular blockade excluded	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Part 3. Physical examination				
Responsiveness/movement (excluding spinal reflexes)				
Unresponsive (deeply comatose)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Absent movement (no spontaneous movement, no response to painful stimuli, no posturing; spinal cord reflexes acceptable)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Evidence of absent brainstem function				
Absent pupillary light reflex	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Absent corneal and gag and cough reflexes	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Absent oculovestibular reflex	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Absent oculocephalic reflex (NA = not applicable)	<input type="checkbox"/> Yes/NA	<input type="checkbox"/> No	<input type="checkbox"/> Yes/NA	<input type="checkbox"/> No
Part 4. Apnea Test.				
High spinal cord injury <i>excluded</i> ? <input type="checkbox"/> Yes <input type="checkbox"/> No: Do not perform apnea test. Ancillary test required.				
Pretest PaCO ₂ : _____ mm Hg Posttest PaCO ₂ : _____ mm Hg Duration of test: _____ minutes				
Respiratory effort? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Apnea test confirms apnea? <input type="checkbox"/> Yes <input type="checkbox"/> 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? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Absence of intracerebral blood flow demonstrated by:				
<input type="checkbox"/> Cerebral angiography <input type="checkbox"/> Radionuclide (nuclear) angiography				
Part 6. Signatures				
Examiner One: I certify that my examination is consistent with brain death. Confirmatory 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: _____				
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Brain Death Examination Form for Pediatric Patients Less than 18 Years and Older Than 7 Days (minimum 36 week gestation)

***(For Trauma Patients Age 15 or Older May Use Either Adult or Pediatric Guidelines)**

Part 1. WRTC notified? <input type="checkbox"/> Yes				
Part 2. Prerequisites				
Irreversible and identifiable cause of coma: <input type="checkbox"/> TBI <input type="checkbox"/> Stroke <input type="checkbox"/> Other:				
	Examination One		Examination Two	
	Date:	Time:	Date:	Time:
Blood Pressure greater than age appropriate minimum	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Body Temperature > 35 ⁰ C (95 ⁰ F)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Significant sedative/analgesic or drug effect excluded	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Significant metabolic/electrolyte abnormalities excluded	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Neuromuscular blockade excluded	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Part 3. Physical examination				
Responsiveness/movement (excluding spinal reflexes)				
Unresponsive (deeply comatose)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Absent movement (no spontaneous movement, no response to painful stimuli, no posturing; spinal cord reflexes acceptable)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Evidence of absent brainstem function				
Absent pupillary light reflex	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Absent corneal and gag and cough reflexes	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Absent oculovestibular reflex	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Absent oculocephalic reflex (NA = not applicable)	<input type="checkbox"/> Yes/NA	<input type="checkbox"/> No	<input type="checkbox"/> Yes/NA	<input type="checkbox"/> No
Part 4. Apnea Test.				
High spinal cord injury <i>excluded</i> ? <input type="checkbox"/> Yes <input type="checkbox"/> No: Do not perform apnea test. Ancillary test required.				
First Apnea Exam		Second Apnea Exam		
Baseline ABG	Post Apnea Test ABG	Baseline ABG	Post Apnea Test ABG	
pH _____	pH _____	pH _____	pH _____	
PaCO2 _____ mm Hg	PaCO2 _____ mm Hg	PaCO2 _____ mm Hg	PaCO2 _____ mm Hg	
Duration of test: _____ minutes		Duration of test: _____ minutes		
Respiratory effort? <input type="checkbox"/> Yes <input type="checkbox"/> No		Respiratory effort? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Apnea test confirms apnea? <input type="checkbox"/> Yes <input type="checkbox"/> No		Apnea test confirms apnea? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Part 5. Ancillary Testing (if necessary)				
Ancillary tests (Cerebral Angiography, Radionuclide Imaging, or EEG)-Required when minimum clinical criteria not met and full clinical examination unable to be performed (with exception for oculocephalic reflex).				
Ancillary Testing performed? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Absence of intracerebral blood flow or lack of brain activity demonstrated by:				
<input type="checkbox"/> Cerebral angiography <input type="checkbox"/> Radionuclide (nuclear) angiography <input type="checkbox"/> EEG				
Part 6. Signatures				
Examiner One: I certify that my examination is consistent with brain death. Confirmatory 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: _____
Patient Label		Inova Fairfax Hospital Brain Death Examination Form		
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Information for Completing the Determination of Brain Death Assessment

Clinical Criteria	Details
Notify WRTC (703-641-0100)	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.
Blood Pressure	SBP should be greater than 90 mm Hg in adults & greater than the age appropriate minimum in newborns, infants, and children.
Body Temperature	Body temperature should be above 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	Significant electrolyte, metabolic or endocrine abnormalities.
Physical examination requirements	
No responsiveness	Patient should be deeply comatose with no responsiveness to noxious stimuli (e.g., supraorbital, sternal pressure).
No 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, neuromuscular blockers, atropine, mydriatics, scopolamine, opiates.)
Absent corneal, gag, cough reflexes	Cough response best assessed by deep bronchial suction.
Absent oculocephalic reflex (Dolls 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.
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 IFH Respiratory policy #5.2.13. See Policy for steps of procedure.

Guidelines for clinicians:

1. Confirm prerequisites are met: 1) normotension, 2) normothermia ($\geq 35^{\circ}\text{C}$), 3) euvoemia, 4) eucapnia (PaCO₂ 35-45 mm Hg), 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 mm Hg or age appropriate minimum in pediatrics, SpO₂ <85% 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 mm Hg or 20 mm Hg 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 confirmatory test