

DOCUMENTATION OF DEATH BY NEUROLOGIC CRITERIA

- The patient must be examined in this hospital during treatment of potentially correctable abnormalities.
- The examining physician will initiate each component of the exam and where appropriate, document supporting laboratory or examination data.

NOTE: IF AN EXAM COMPONENT IS NOT OR CANNOT BE DONE, DOCUMENT WHY.

DOCUMENT THE DATE AND TIME OF THE EXAMINATION

A. No Evidence of/Cause of Reversible CNS Depression	DOCUMENT EXAM RESULTS
1. Core temperature must be $\geq 36^{\circ}$ Centigrade (96.8° Fahrenheit). →Record temperature.	
2. No evidence of severe metabolic derangements that could potentiate central nervous system depression. Consider glucose, Na, creatinine, pCO ₂ , SaO ₂ , drug intoxication. Note: A sufficient amount of time to clear intoxicants should be allowed. -->Record no evidence of severe metabolic derangements.	
3. No CNS depressant drugs or paralytic agents given a minimum of 2-hours prior to exam. →Record no evidence of pharmacological abnormalities within 2 hours.	
4. Absence of hypotension (SBP > 90mmHg, or MAP > 60mmHg). →Record blood pressure.	
B. Absence of Cortical Function	DOCUMENT EXAM RESULTS
1. No motor response to any stimuli (excluding spinal reflexes)	
2. No eye opening to any stimuli	
3. No response to any verbal stimuli	
C. Absence of Brain Stem Reflexes and Responses **If test is conducted, reflex must be absent. **	DOCUMENT EXAM RESULTS
1. Pupils non-reactive to strong light	
2. Absent corneal reflexes	
3. Absent response to upper and lower airway stimulation, such as pharyngeal and endotracheal suctioning	
4. Absent oculovestibular (cold caloric) response to irrigation of the ears with 50 mL of ice water. See next page for instructions.	
5. Absent oculoccephalic (doll's eye) reflex (Do not perform if suspected C-spine injury)	
6. Apnea Test: Done with physician present. See next page for specific instructions pCO ₂ at beginning of test _____ pCO ₂ at end of test _____ pH at end of test _____	
D. Document Ancillary Test Utilized (minimum of 1)	DOCUMENT EXAM RESULTS
An ancillary test is not required if a clinical exam including an apnea test is done. If patient is too unstable to tolerate apnea testing, has a cervical fracture with spinal cord involvement at, or above C4, and/or any condition exists that would negate patient's ability to breathe (e.g. barbiturate coma, sedation at higher than therapeutic blood levels, etc.), one of the following ancillary tests is required:	
Ancillary Test(s): <input type="checkbox"/> CT Angiogram <input type="checkbox"/> EEG <input type="checkbox"/> Radionuclide CBF <input type="checkbox"/> Cerebral arteriography	

Having evaluated the above findings, I hereby certify the death of:

PATIENT IDENTIFICATION LABEL

Physician Signature _____

Physician Name Printed _____

Date _____ Time _____

ADULT APNEA TEST for BRAIN DEATH DETERMINATION

Purpose: The Apnea Test is a component in evaluating cranial nerve function, i.e. respiratory drive. The procedure is done by the critical care RN and RT with a physician present during the actual observation period.

ESSENTIAL ELEMENTS

1. Prior to Apnea Testing
 - a. Before starting the apnea test, the ventilator settings must be adjusted to reach a normalized baseline pCO_2 within the 35-45 mmHg range. **NOTE:** This ABG must be obtained no more than 2 hours before performing the apnea test, and no ventilator changes will have been made during this period.
 - b. Once the target pCO_2 has been reached, and before the apnea test is started, provide 100% oxygen via mechanical ventilation for at least 8-10-minutes prior to starting the Apnea Test
2. The Apnea Test will be conducted for 10 minutes, and begins when mechanical ventilation is removed. Supplemental oxygen at 100% should be delivered via means such as oxygen tubing down the ETT or T-piece.
3. Monitor blood pressure, heart rate and SpO_2 continuously. If the patient becomes hemodynamically unstable during the observation period:
 - a. The test should be terminated
 - b. Mechanical ventilation should be resumed
 - c. An ABG should be obtained as quickly as possible.
 - d. An alternate ancillary test must then be utilized
4. During the test, observe for any respiratory effort. If any respiratory effort is noted, the patient is not brain dead, therefore the test should be stopped and mechanical ventilation resumed.
5. During the test, the CO_2 will rise about 3 mmHg per minute during apneic oxygenation. To ensure that the CO_2 rise can be adequately assessed, it is recommended that the patient remain off the ventilator for a full 10 minutes if tolerated hemodynamically. The desired pCO_2 endpoint is ≥ 60 mmHg, and at least 20mmHg above the previously normalized baseline.
6. An ABG must be drawn at the end of the observation period to assure the pCO_2 has reached the required level. Then, **RESUME VENTILATION immediately.**
7. **If there is no evidence of respiratory effort, and the pCO_2 reaches ≥ 60 mmHg, and at least 20 mmHg above the previously normalized baseline, the Apnea Test is positive, and supports the clinical diagnosis of brain death.**

NOTE: In the event that venous blood gas (VBG) pCO_2 levels must be used during apnea testing, providing that practice does not contradict the hospital's brain death determination policy, the starting pCO_2 range is 40-50mmHg, and the terminal pCO_2 at completion of the apnea test must reach at least 70mmHg.

COLD CALORIC TEST for OCULOVESTIBULAR EVALUATION

Purpose: The cold caloric test (oculovestibular reflex) is a component of evaluating brain stem function in an unconscious patient.

The procedure is performed by a physician.

ESSENTIAL ELEMENTS

- Each ear canal is irrigated with a minimum of 50 mL of cold water. Allow 1-minute after injection and at least 5-minutes between testing on each side.
- Allow 1-minute after injection and at least 5-minutes between testing on each side.
- No eye movement indicates brain stem damage.