

Policy and Procedure Manual
Patient Care/Technical

Policy Number: PCT-305
Date Written: 04/92
Date Reviewed/ Revised: 12/93, 02/94,
05/97, 01/98, 07/00, 01/04, 01/06, 11/08,
12/09, 11/12
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APNEA TEST

I. PURPOSE:

To determine the presence or absence of spontaneous respirations in-patients with severe brain injury where brain death is suspected. Criteria to determine brain death according to UCI Medical Center “Brain Death Determination Guidelines” – Executive Committee Directive No. 60.12

II. POLICY:

- A. A physician order is required for an Apnea Test.
- B. A separate order for ABG’s is required.
- C. This test requires a minimum of 10 minutes after normalization of PCO₂.
- D. A physician *must* remain at the bedside during an Apnea Test
- E. Prior to test, ABG values should be pH < 7.40, SaO₂ > 90%, PaCO₂ > 40 mmHg
- F. Contraindications for an Apnea Test include: blood pressure below 80 mmHg systolic, cardiac arrhythmia’s associated with hypoxemia and SaO₂ below 90% on 100% oxygen.
- G. **Under no circumstances shall any tubing (for the purpose of medical gas delivery) be placed directly into the patient airway.**

III. EQUIPMENT NEEDED:

- A. Oxygen tubing
- B. Oxygen flowmeter
- C. Christmas tree adapter
- D. Oxygenator T-Tube
- E. 50 psi oxygen source
- F. Pulse Oximeter

IV. PROCEDURE:

RESPONSIBLE PERSON(S)/DEPT	PROCEDURE DESCRIPTION
Respiratory Care Practitioner (RCP)	<p>A. Preparation:</p> <ul style="list-style-type: none"> 1.1 Gather necessary equipment. 1.2 Plug O₂ flowmeter into 50 psi outlet. 1.3 Attach O₂ tubing to O₂ flowmeter.

B. Procedure: Oxygenator T-tube Method

- 4.1 Wash hands to prevent the spread of infection.
- 4.2 Check medical record to verify Physician order for Apnea Test.
- 4.3 Identify patient making sure to use two forms of identification.
(name, medical record number, date of birth)
- 4.4 Place patient on 100% oxygen and check blood pressure.
- 4.5 Take patient off ventilator. Place oxygenator T-tube on the the ETT/Trach tube.
- 4.6 Adjust O2 liter flow to achieve oxygen saturation greater than 90%.
- 4.7 Monitor patient heart rate, heart rhythm, SaO2 by oximeter, blood pressure, respirations and time off ventilator.
- 4.8 If no spontaneous respirations occur after 10 minutes, obtain ABG.
- 4.9 If PaCO2 is <60 mmHg and hemodynamics remain stable, continue test, drawing serial blood gases q2 minutes until PaCO2 >60mmHg or adverse reactions occur
- 4.10 If pH does not drop below 7.40, the Apnea Test may not be valid.

C. Post Procedure:

- 5.1 Remove oxygenator T-tube from patient airway and place patient back on ventilator.
- 5.2 Document duration patient was off ventilator, oxygen use in LPM, heart rate (pre/during/post), SaO2 (pre/during/post), ABG results, MD at bedside, adverse reactions/associated action(s) taken, presence or absence of spontaneous respirations.

APPROVED:

**MEDICAL DIRECTOR
RESPIRATORY CARE SERVICES**

**DIRECTOR
RESPIRATORY CARE SERVICES**

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