Sample Apnea Testing Policy

Purpose
To establish and document the presence or absence of spontaneous ventilatory effort as part of the evaluation of patients to determine if they meet brain death criteria.

Protocol
1. The attending physician (or his or her designee) enters the order for the apnea test. Verbal orders are not appropriate.
2. A Registered Respiratory Therapist (RRT) in conjunction with the attending physician (or his or her designee), or the attending physician, may perform the apnea test.
3. The clinician performing the test completes the PreApnea Test Clinical Assessment Form and reviews the results with the attending physician (or his or her designee).
4. The attending physician (or his or her designee) determines if the apnea test should be conducted and must be present during the test.
5. The clinician performing the test completes the PostApnea Test Report Form.

Procedure
1. Assemble equipment: a) PreApnea Test Clinical Assessment Form and Post Apnea Test Report Form b) examination gloves, c) 3.0 ml sterile syringes, d) ABG syringes, e) pressure transducer kit with adapter, monitor cable, and available monitor channel, f) 1.0 mm polyethylene catheter (optional for providing supplemental oxygen), g) ETCO₂ monitor with adapter and cable (optional per physician’s discretion).
2. PreApnea Clinical Assessment:
   a. Set ventilator parameters to establish a normal pH (7.357.45) OR PaCO₂ (4045mm G).
   b. Set the delivered FIO₂ to 100%.
   c. Perform an ABG to verify that the PaCO₂ or the pH is within defined normal range.
      - If not within range, adjust ventilator settings and retest ABGs until defined range is achieved.
      - Review ABG results and other data with the attending physician (or his or her designee). If test is to continue, include this information in the “Comments Section” of the PreApnea Test Clinical Assessment Form.
   d. Proceed to the apnea test if:
      - PaO₂ is equal to or greater than 200 mmHg AND
      - PaCO₂ is 40-45mmHg OR pH is 7.357.45.
   e. Do not proceed to the apnea test if:
      - PaO₂ AND
      - PaCO₂ OR pH is not in the defined range.
      - Consider alternative confirmative tests (i.e. conventional angiography, EEG, nuclear angiogram).
   g. Complete the PreApnea Test Clinical Assessment Form and place in the medical record.
3. Apnea Test
   a. Set up the following: a) airway pressure transducer, or ETCO₂ adapter, and b) pulse oximeter.
   b. Place the patient on +10cmH₂O CPAP. (May use a 0.5 or 1.0 liter non self inflating bag with attached pressure manometer).
      - Per physician’s request additional oxygen may be provided through polyethylene tube at 6 Lpm with distal tip of catheter located at carina. Polyethylene tube should be 24 cm longer than ET tube or tracheostomy tube and placed into the patient circuit through a swivel port adapter.
c. Perform an ABG analysis every 5 to 10 minutes (or per physician request) until one of the following occurs:

- **Patient begins to breathe.** Turn on the strip chart recorder and record the patient’s ECG and airway pressure for 20 seconds. Select a strip that identifies a patient initiated breath. Attach strip on back of the PostApnea Test Report Form.

- **Patient’s PaCO₂ rises above 60 mmHg and the pH falls below 7.30.** A minimum of 5 minutes must have elapsed since initiation of CPAP. Turn on strip chart recorder and record the patient’s ECG and airway pressure for 20 seconds. Attach strip to back of the PostApnea Test Report Form.

- **SpO₂ falls below 88%.**
- **PaO₂ falls below 60 mmHg**
- **Hemodynamic instability ensues – as evidenced by:**
  - hypotension decrease in BP > 30% of baseline or < 90 mmHg systolic.
  - hypertension increase in BP > 30% of baseline or > 190 mmHg systolic.
  - bradycardia decrease in pulse rate > 30% of baseline or < 50 beats per minute.
  - tachyarrhythmias

4. Post Apnea Test:
   a. Place the patient on preapnea test ventilator settings or alternate settings per physician order.
   b. Complete PostApnea Test Report Form and place in medical record.
   c. Document performance of the apnea test and any associated procedures – (e.g. ABGs) in MIS.