

# DETERMINATION OF BRAIN DEATH

PREREQUISITES  
(1) Core temperature > 32.2 C  
(2) SBP > 90 mmHg  
(3) No CNS depressants  
(4) No paralytics 4/4 TOF  
\*\*\* CONTACT TDS (322-2247)

PHYSICAL EXAM  
(1) Non-responsive to painful stimuli  
(2) Lack of midbrain function (no pupillary light reflex)  
(3) Lack of pontine function (no corneal reflex)  
(4) Lack of medullary/brainstem function (no cough or gag reflex)

PRE-APNEA VENTILATOR MANAGEMENT  
(1) Set Respiratory Rate of  $\geq 16$   
(2) FiO<sub>2</sub> 100%  
(3) Pre-apnea abg with PaCO<sub>2</sub> of 40-45 mmHg  
(4) Pre-apnea abg with PaO<sub>2</sub> of 200 mmHg, if possible

APNEA TEST \*  
(1) Disconnect from ventilator, deliver 100% FiO<sub>2</sub> via ETT/trach, mask/oxygen tube  
OR  
(2) May leave on ventilator with PEEP only (PS mode) if pulmonary status is labile  
\*- Attending or Fellow MUST be present

Hemodynamic instability  
or oxygen desaturation

**Trans-cranial doppler**  
(call Dr. Adrian Valdivia)

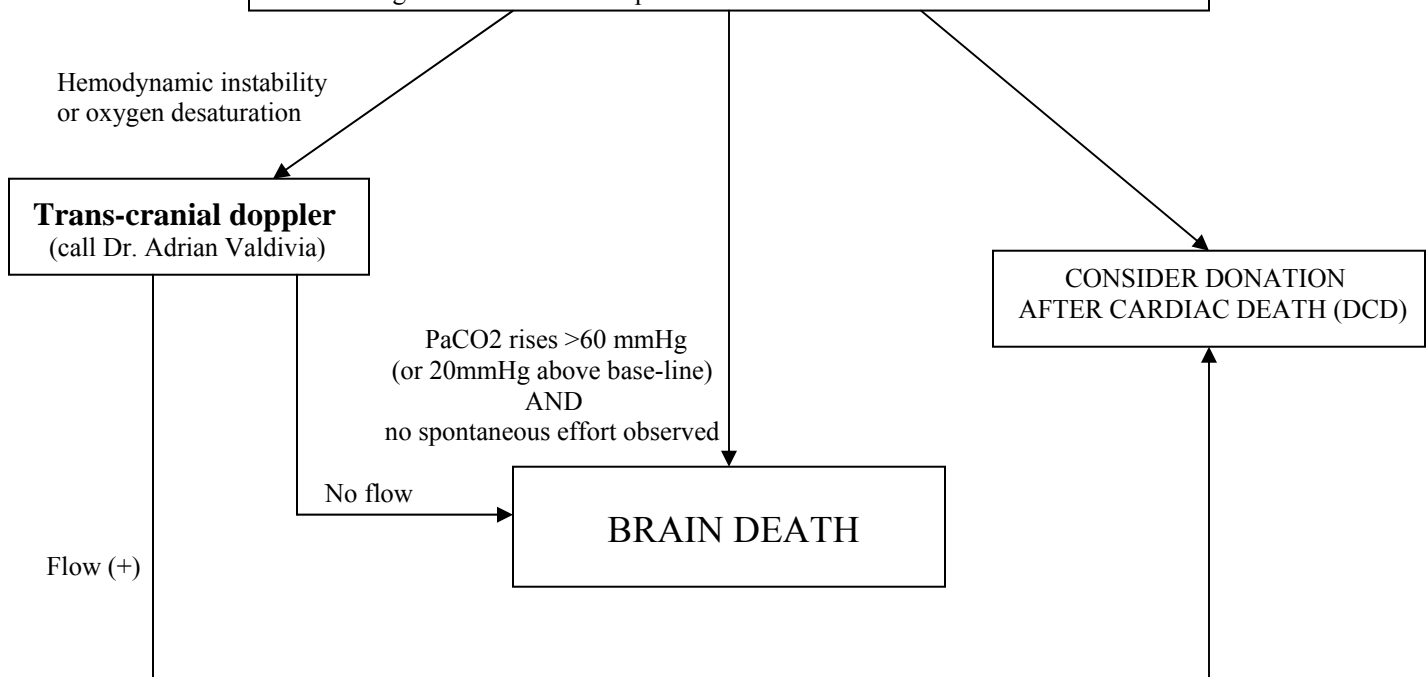
CONSIDER DONATION  
AFTER CARDIAC DEATH (DCD)

PaCO<sub>2</sub> rises > 60 mmHg  
(or 20mmHg above base-line)  
AND  
no spontaneous effort observed

No flow

**BRAIN DEATH**

Flow (+)



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**TABLE 1. CLINICAL CRITERIA FOR BRAIN DEATH  
IN ADULTS AND CHILDREN.**

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Coma

Absence of motor responses

Absence of pupillary responses to light and pupils at midposition with respect to dilatation (4–6 mm)

Absence of corneal reflexes

Absence of caloric responses

Absence of gag reflex

Absence of coughing in response to tracheal suctioning

Absence of sucking and rooting reflexes

Absence of respiratory drive at a PaCO<sub>2</sub> that is 60 mm Hg or 20 mm Hg above normal base-line values\*

Interval between two evaluations, according to patient's age

Term to 2 mo old, 48 hr

>2 mo to 1 yr old, 24 hr

>1 yr to <18 yr old, 12 hr

≥18 yr old, interval optional

Confirmatory tests†

Term to 2 mo old, 2 confirmatory tests

>2 mo to 1 yr old, 1 confirmatory test

>1 yr to <18 yr old, optional

≥18 yr old, optional

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\*PaCO<sub>2</sub> denotes the partial pressure of arterial carbon dioxide.

†See Table 2 for descriptions of the available confirmatory tests. Tests may be required by law outside the United States.

Wijdicks EFM. The diagnosis of brain death. *N Engl J Med* 2001;344:1215-1221.]

#### PHONE CALLS:

1. Patient attending or attending on call
2. Tennessee Donor Services (TDS) 322-2247  
-TDS is to be called on all deaths and all pending deaths
3. Coroner's Office 518-8813 (pager)  
-Call the Coroner's office on all deaths on the trauma service
4. Bereavement Counselor 835-1497 (pager)

#### REFERENCES

1. Quality Standards Subcommittee of the American Academy of Neurology: Practice parameters for determining brain death in adults. *Neurology* 45:1012, 1995
2. Beresford HR. Brain Death. *-Neurol Clin* - 01-May-1999; 17(2): 295.
3. Wijdicks EFM. The diagnosis of brain death. *N Engl J Med* 2001;344:1215-1221.