Establishing a diagnosis of brain death

- A physician experienced in the relevant clinical criteria and diagnostic procedures is required to declare brain death.
- For the purposes of organ donation, 2 physicians are required to declare brain death. Neither physician can have had any significant association with the potential recipient, nor can they participate in any way in the transplant procedures.
- All brain-stem reflexes (pupillary, oculo-cephalic [doll’s eyes], oculovestibular [cold caloric], corneal, gag, cough and respiratory) must be absent when tested with appropriate stimuli at the bedside.
- Motor responses within the cranial nerve distribution must be absent when tested with stimuli applied to any part of the body. Spinal cord reflexes may still be present in some cases. Seizures or decorticate/decerebrate posturing rule out a diagnosis of brain death.
- Reversible conditions such as hypothermia (temperature < 32.2°C), and the influence of central nervous system depressants and muscle relaxants must be ruled out.
- Determining the irreversibility of coma may require a period of observation between 2 and 24 hours, depending on the cause of the coma.
- During apnea testing, no spontaneous respiration should be evident upon disconnection of the ventilator for a period long enough to allow the partial pressure of carbon dioxide in arterial blood to rise above 60 mm Hg and the pH to fall below 7.28 (usually 10 minutes).
- If aspects of the clinical examination cannot be completed at the bedside, supportive diagnostic procedures (e.g., radionuclide scanning or 4-vessel cerebral angiography to rule out intracranial blood flow) can be considered to support the diagnosis.