Brain Death guidelines
Strength, Controversies and Problem

Dr. Koo Chi Kwan

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Brain death guidelines - strength

- Updated regularly
- Cross reference to international guidelines
  - Take reference from the latest Australian and European guidelines
  - Represent the latest consensus among world experts in this area.

Brain death guidelines - controversies

- What to exclude ?
  - comprehensive list for exclusion not available/ not possible
  - Objective measures for CNS effects of drugs not available
  - Can only exclude known factors

Brain death guidelines - controversies

- Credentialing for doing the test
  - What is entitled to do the test?
  - What is the minimum training needed to do the test?
  - How to control the quality of testing
  - Who and how to teach?

Brain death guidelines - controversies

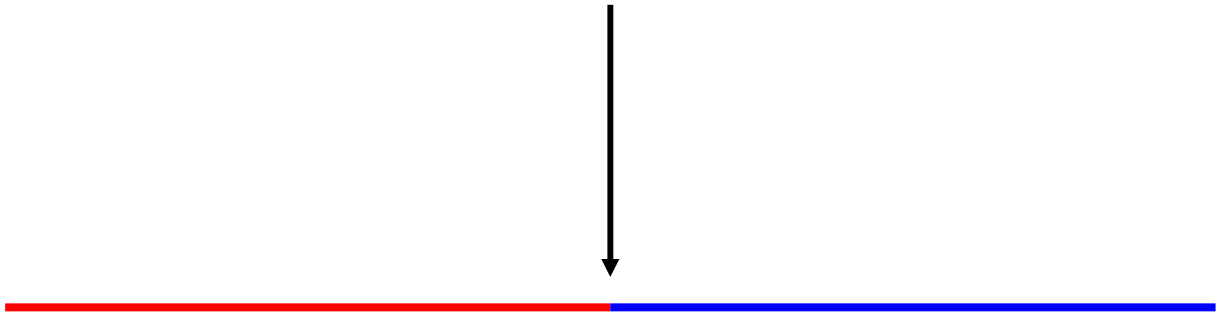
- The role and indications for radiological imaging
  - List of indications for radiological imaging not exhaustive
  - Depend on the experience and judgment of the clinician
  - Presence of false negative – failure to diagnosis brain death when death is present

Brain death guidelines - controversies

- When to involve the transplant coordinators
  - After the patient passed the first set of brain-setm test
  - Before the brain stem test.

A matter of Time

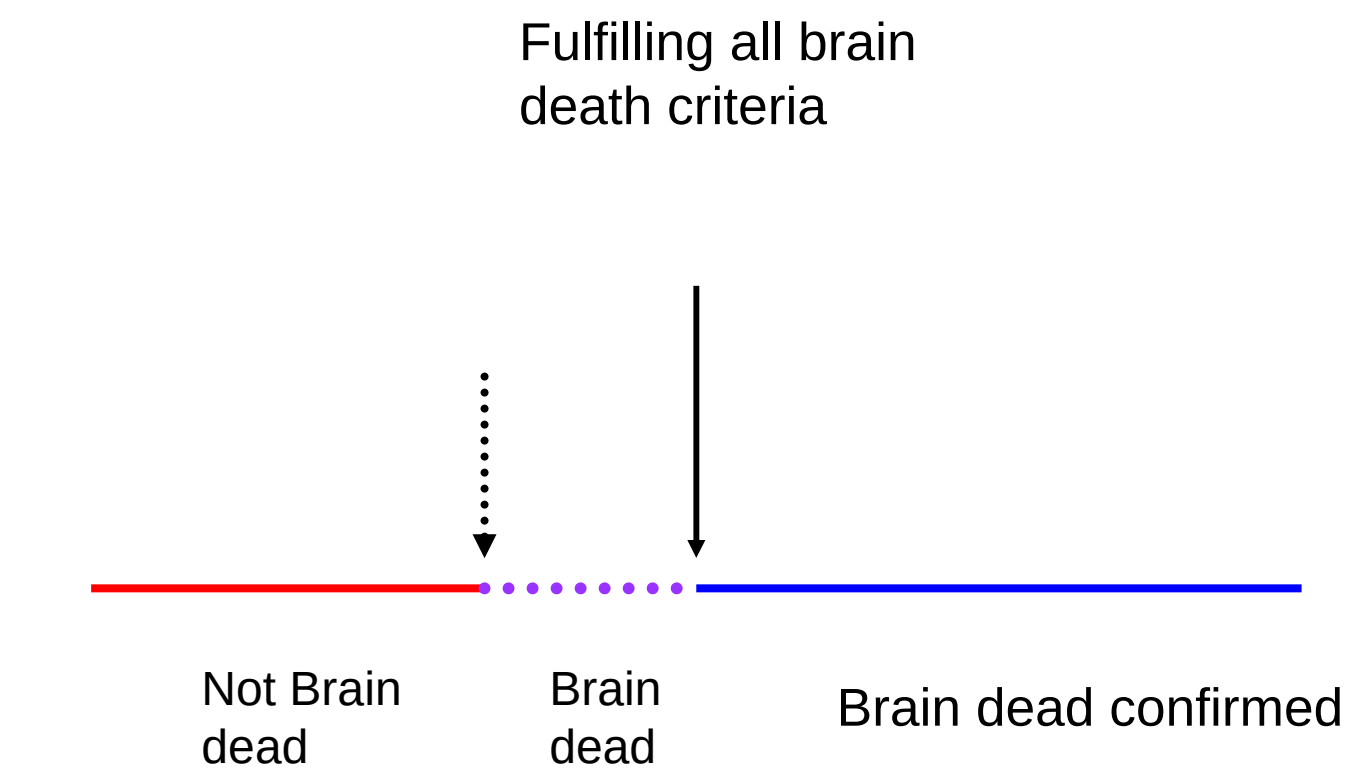
Fulfilling all brain death criteria



Brain dead Not yet confirmed

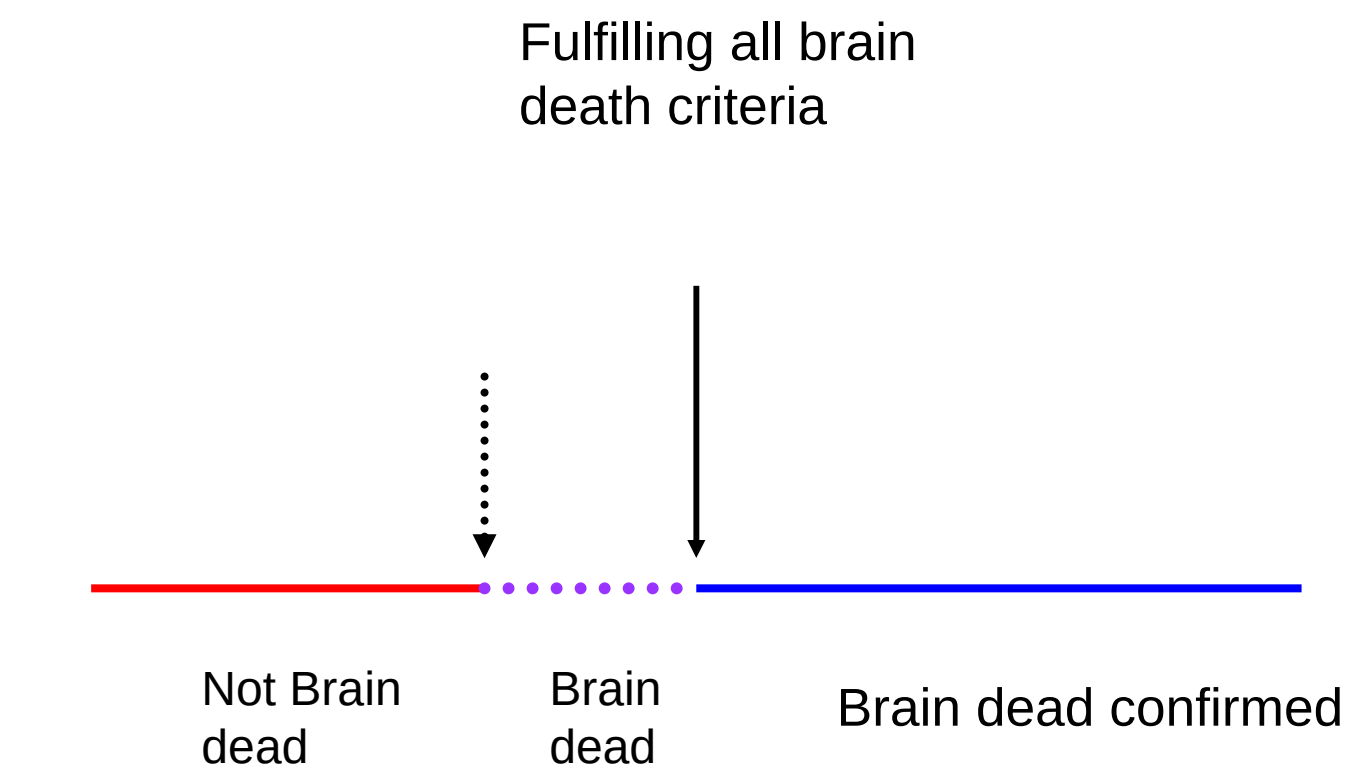
Brain dead confirmed

T i m e


Fulfilling all brain death criteria
Not Brain dead
Brain dead
Brain dead confirmed
Brain dead Not yet confirmed
T i m e

Brain death guidelines - problem

- What is the cut off point between doing everything for the patient and potential organ donor maintenance ?


Fulfilling all brain death criteria
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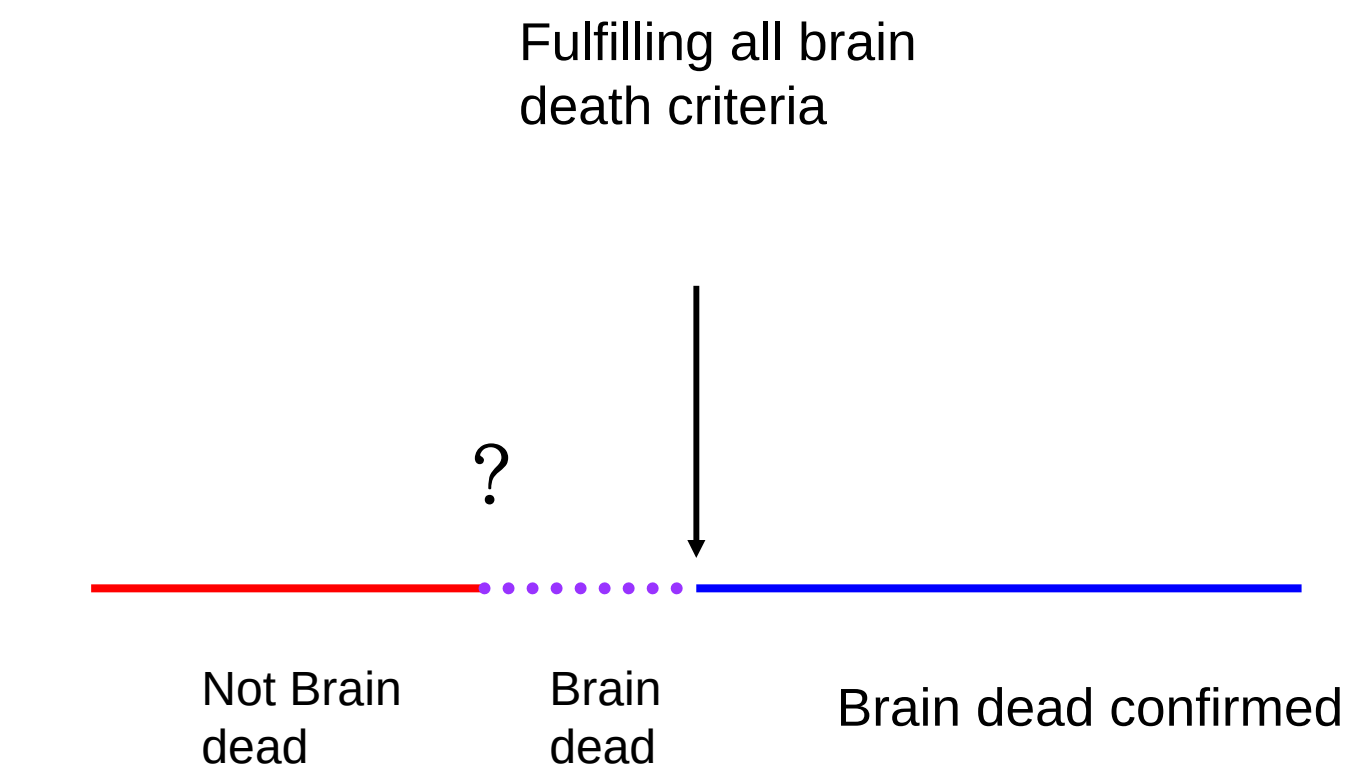
T i m e

Brain death guidelines - problem

- What is the time for doing the brain stem test?


Fulfilling all brain death criteria
?
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T i m e

Imminent brain death: point of departure for potential heart-beating organ donor recognition

Yorrick J. de Groot et al

Intensive care Med (2010) 36: 1488-1494

Imminent brain death

- Introduce the concept of imminent brain death, when the clinician can proceed with the brain death diagnosis
- Imminent brain death being defined as
  - A mechanically ventilated, deeply comatose patient with irreversible catastrophic brain damage of known origin. AND
  - GCS of 3 and the progressive absence of at least 3 out of 6 brainstem reflex, OR
  - FOUR score of EoMoBoRo
    - (FOUR score = Full Outline of Unresponsiveness score)
    - Eo is eyelids remain closed with pain,
    - Mo is no response to pain or generalised myoclonus status,
    - Bo is absent pupil, corneal and cough reflex
    - Ro is breathes at ventilator rate or apnoea

Brain death guidelines – local problems

- Care of potential donor in a proper setting
  - Many are cared outside ICU with insufficient monitoring and inadequate support
  - Non- ICU doctor not expert in looking after these patients
  - Ethical issues in admitting patient to ICU for the sole purpose of organ maintenance when consent for donation not sure

Brain death guidelines – local problems

- Logistics of handling a potential donor
  - Lack of inter-departmental protocol / co-operation

Brain death guidelines – local problems

- Insufficient expertise pool for maintaining brain dead patient and doing the test

Brain death guidelines – local problems

- Weak central control from Hospital Authority Head Office, especially in the early part of the transplant program
  - Patient admission ---＞ brain death diagnosis
  - Brain death diagnosis ---＞ organ harvest