

# Head trauma / brain death / transplant donations

## (January 2017)

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### Rationale

While most head trauma is mild and not associated with long-term sequelae, clinical examination may fail to detect serious intracranial injuries that are evident on radiological imaging. Therefore, it is imperative to recognize head injured patients that require additional diagnostic imaging. When brain death has occurred, organ transplantation should be considered.

### Causal Conditions

(list not exhaustive)

- Skull fracture, penetrating injury
- Hemorrhage, hematoma (subdural, epidural, subarachnoid, shaken baby syndrome)
- Cerebral contusion
- Edema (midline shift)

### Key Objectives

Given a patient with a head/brain injury, the candidate will diagnose the cause, severity and complications. In particular, the candidate will, based on the mechanism of injury and the clinical findings, determine the appropriate management plan and select appropriate imaging and ongoing surveillance. In case where brain death has occurred, ensure that appropriate organ donation protocol be activated.

### Enabling Objectives

Given a patient with a head/brain injury, the candidate will

- list and interpret critical clinical findings, including those derived from

- a. a history aimed at determining if the head injury was severe, or associated with complication (e.g., mechanism of injury, loss of consciousness);
- b. a physical examination aimed at determining if the head injury was severe, or associated with complication (e.g., ecchymosis behind ear);
- c. a repeat history or examination aimed at detecting evolving pathology;
- d. clinical signs of brain death;
- list and interpret critical investigations, including
  - a. determination as to whether the patient requires urgent brain imaging;
  - b. confirmation of brain death with appropriate investigations;
- conduct an effective initial management plan, including
  - a. determine if the patient requires specialized or urgent care;
  - b. in a patient whose head injury has caused brain death, but whose heart is still beating, communicate this information to the transplantation team (or equivalent) if the deceased patient or the family have indicated a desire to donate organ(s);
  - c. if there is no indication that organ donation has been considered, counsel the family about the possibility.