**Immediate management:**
- Protocols for the neurosurgical resuscitation of patients in coma are summarised in Table 4.1.
- Cerebral blood flow monitoring in critically ill neurological patients shows a high incidence of unsuspected seizure activity.
- Brain death is defined as the irreversible loss of both cerebral hemispheres, and is based on the clinical assessment of a patient's ability to breathe and maintain body temperature in the absence of brainstem reflexes.
- Brainstem auditory evoked potential and short latency somatosensory evoked potentials are used to identify structural lesions with the least risk.
- MRI is particularly useful in demonstrating early stroke, encephalitis, central pontine myelinolysis and traumatic shearing with greater resolution and at an earlier time than CT.

**Clinical presentation:**
- A 2-year prospective study of 290 patients with traumatic coma demonstrated that the GCS was as acute as the APACHE-II for this purpose.
- Only 10% of patients in a medical coma will make a good recovery while 61% will die. Prognosis depends on the etiology of medical coma with patients in coma due to stroke, subarachnoid haemorrhage or cardiac arrest having only a 10% chance of survival to 6 months. 35% will achieve a moderate to good outcome if coma is due to a metabolic cause while almost all patients who die or become vegetative have a poor prognosis.
- Patients who are located in a voluntary capacity of only vertical eye movements and blinking, and have no evidence of cognitive function or purposeful movement, are not candidates for clinical coma. Patients who are not candidates for clinical coma are not candidates for clinical coma.
- Vegetative patients may demonstrate spontaneous eye movements and limb movements; however, they have no evidence of cognitive function or purposeful movement. Some vegetative patients may experience spontaneous eye movements and limb movements, but other vegetative patients may experience spontaneous eye movements and limb movements.
- Vegetative patients may experience spontaneous eye movements and limb movements, but other vegetative patients may experience spontaneous eye movements and limb movements.
- Patients who are located in a vegetative state have no evidence of cognitive function or purposeful movement and are not candidates for clinical coma. Patients who are not candidates for clinical coma are not candidates for clinical coma.
- Patients who are located in a vegetative state have no evidence of cognitive function or purposeful movement and are not candidates for clinical coma. Patients who are not candidates for clinical coma are not candidates for clinical coma.

**Management of coma:**
- Patients in a coma for longer than 6 hours have a 40% chance to recover to moderate disability or better at 6 months. The most reliable predictors of outcome at 6 months are:
  - Patient's age (scores above 60 years)
  - Sustained elevated ICP >30mmHg is an independent predictor of poor prognosis.

**Imaging:**
- CT has value in demonstrating early stroke, encephalitis, and associated neuro-ophthalmological findings.
- MRI is particularly useful in demonstrating early stroke, encephalitis, central pontine myelinolysis and traumatic shearing with greater resolution and at an earlier time than CT.

**EEG:**
- EEG changes generally reflect the severity of altered arousal or delirium characterised by a decreased frequency of the background rhythm and the appearance of diffuse slow activity in the theta range.
- EEG is particularly useful in the diagnosis of early stroke, encephalitis, central pontine myelinolysis and traumatic shearing with greater resolution and at an earlier time than CT.
- EEG changes in acute disconnection syndromes are characterized by a decrease in the amplitude of the background rhythm and the appearance of diffuse slow activity in the theta range.
- EEG changes in acute disconnection syndromes are characterized by a decrease in the amplitude of the background rhythm and the appearance of diffuse slow activity in the theta range.

**Structural causes of coma:**
- Intracranial mass lesions that cause coma may be located in supratentorial compartment or infratentorial compartment.
- Intracranial mass lesions that cause coma may be located in supratentorial compartment or infratentorial compartment.
- Intracranial mass lesions that cause coma may be located in supratentorial compartment or infratentorial compartment.

**Clinical causes of coma:**
- Clinical causes of coma include hypoxia, hypercapnia, hypoglycemia, and hypothermia.
- Clinical causes of coma include hypoxia, hypercapnia, hypoglycemia, and hypothermia.

**Functional diagnosis:**
- Functional diagnosis includes the identification of the underlying cause of coma and the evaluation of the patient's likely outcome.
- Functional diagnosis includes the identification of the underlying cause of coma and the evaluation of the patient's likely outcome.

**Prognosis:**
- The prognosis for patients with coma is determined by the underlying cause and the severity of the associated injuries.
- The prognosis for patients with coma is determined by the underlying cause and the severity of the associated injuries.

**References:**