

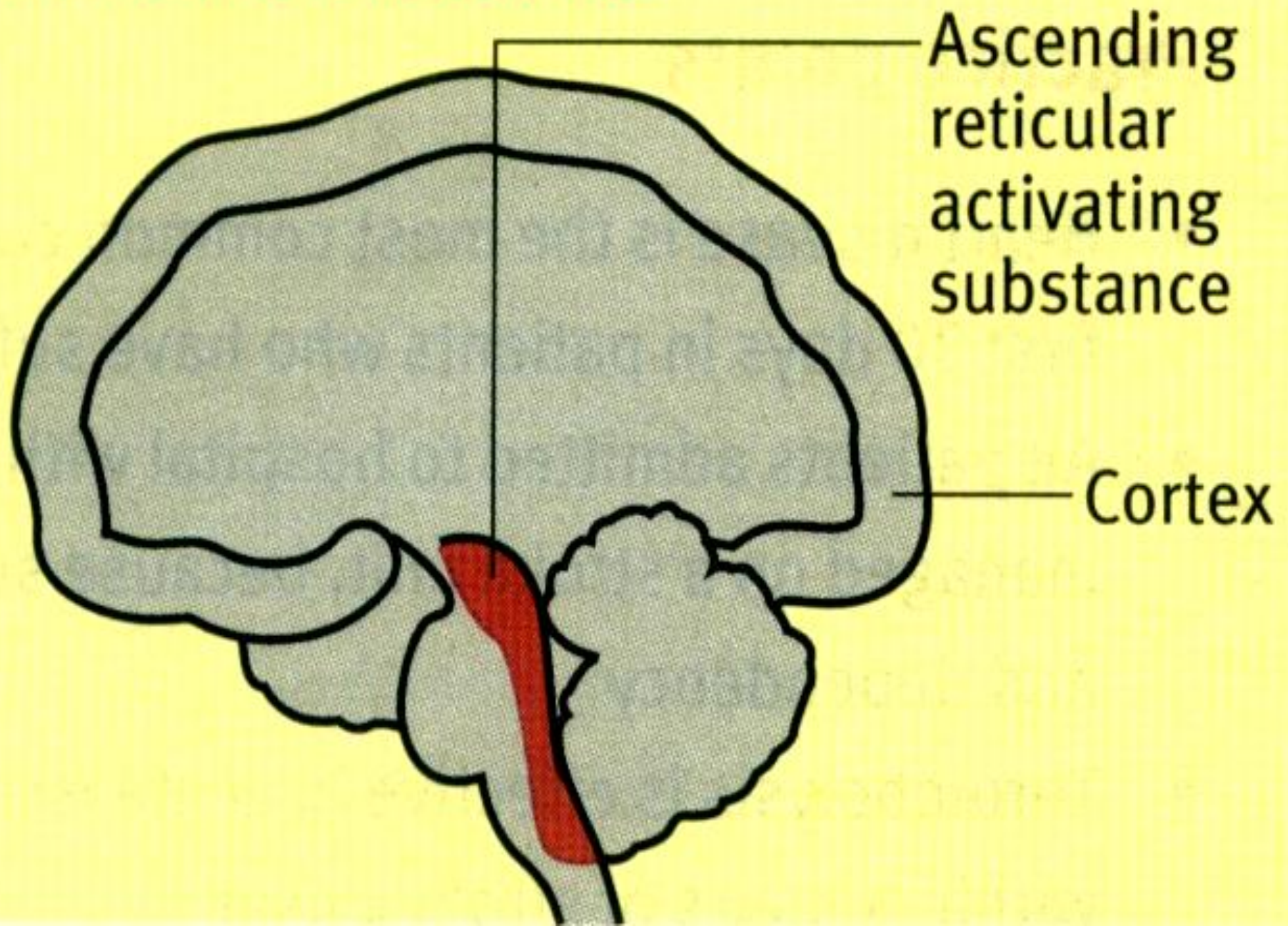
The Unconscious Patient

The Unconscious Patient

The Unconscious Patient

- definitions
- causes
- assessment
- management

Normal consciousness



Definitions

- consciousness
- sleep
- drowsiness, stupor, coma
- confusion
- delirium

- **consciousness**
 - awareness of self and environment
 - ability to respond to stimuli
- **sleep**
 - arousal → aware, can respond
- **stupor**
 - respond only to vigorous stimuli
- **coma**
 - unrousable unresponsiveness
- **confusion**
 - impaired consciousness, attention, orientation, memory
- **delirium**
 - acute confusion with psychomotor overactivity

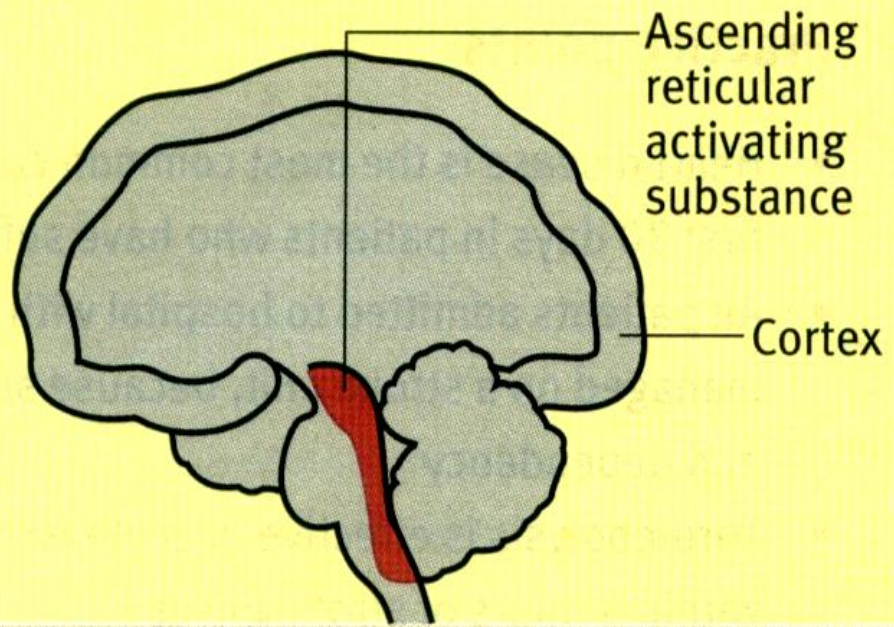
Level of consciousness

- assessment by Glasgow Coma Scale
 - eye opening
 - best verbal response
 - best motor response

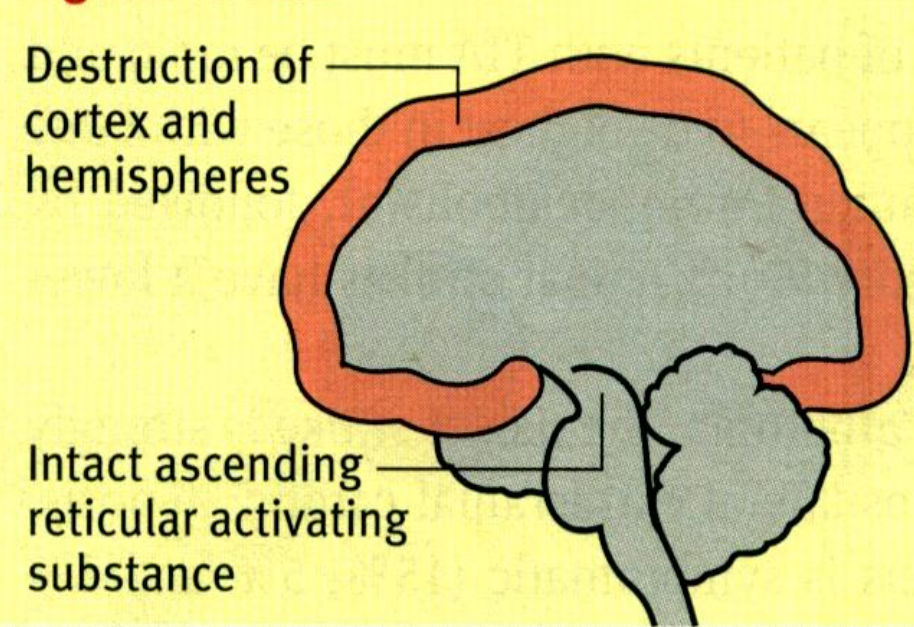
Definitions

- vegetative state
- locked-in syndrome
- brain stem death

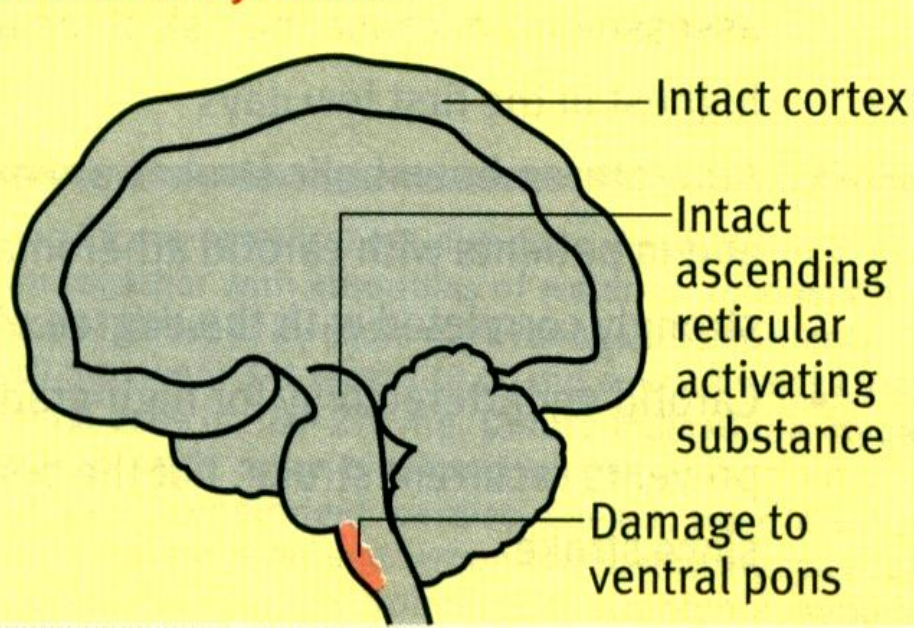
Normal consciousness



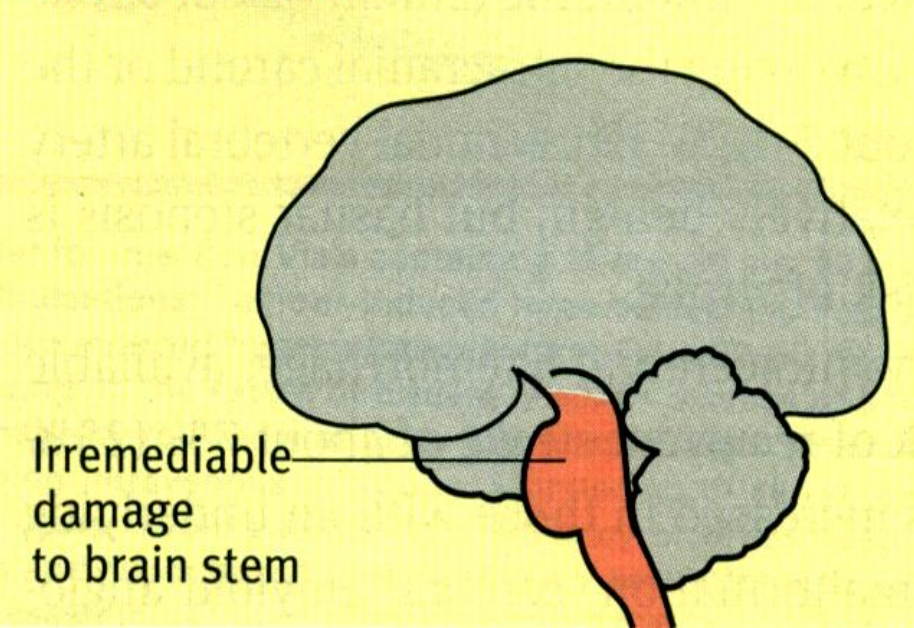
Vegetative state



Locked-in syndrome



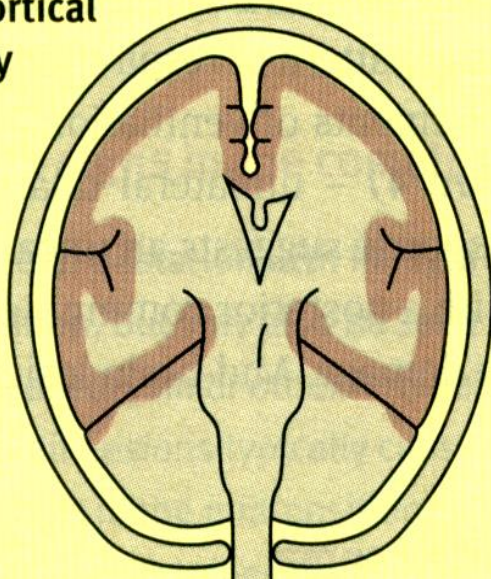
Brain stem death



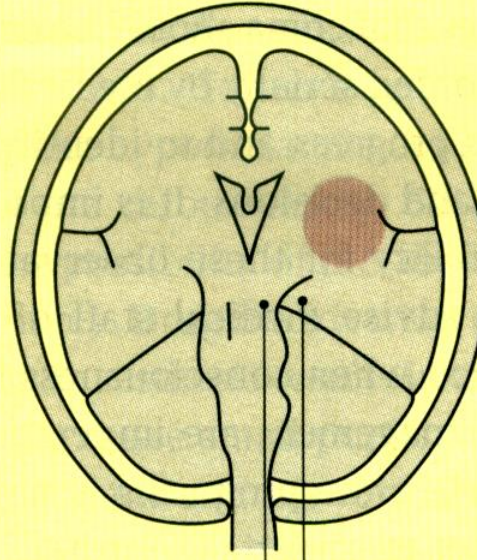
Altered consciousness

altered consciousness - mechanisms

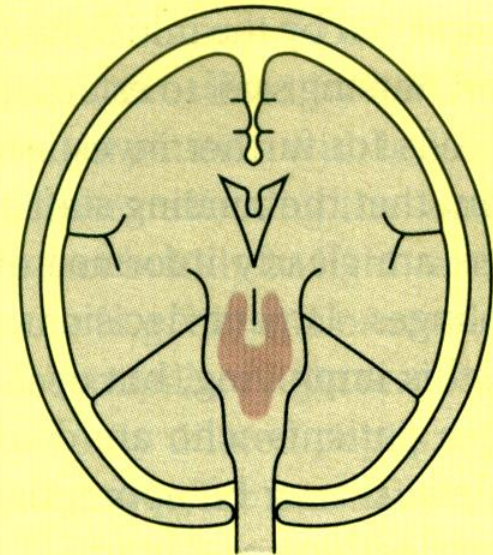
Diffuse cortical pathology



Mass lesions



Focal brain stem lesions



- diffuse cortical dysfunction
 - intracranial, extracranial
- focal supratentorial lesion - \uparrow ICP
- brain stem / infratentorial lesion

altered consciousness - causes

- **diffuse cortical dysfunction**
 - **intracranial** - infection, vascular (SAH), trauma
 - **extracranial** -
 - metabolic - organ failure, electrolytes
 - toxic - alcohol, drugs, ...
 - hypoxia, malignant HT
 - endocrine
- **focal supratentorial lesion - ↑ ICP**
 - tumour, abscess, haematoma, infarct, trauma
- **brain stem / infratentorial lesion**
 - tumour, abscess, haematoma, infarct, trauma.....

altered consciousness - assessment

altered consciousness - assessment

- GCS
- brain stem function
- motor function
- after ABC, resuscitation

altered consciousness - assessment

- GCS
- brain stem function
 - pupils - size, light reflex
 - corneal reflex
 - eye position, eye movements
 - oculo-cephalic reflexes - 'doll's eye'
 - vestibulo-ocular reflexes
 - respiration
- motor function

altered consciousness - assessment

- GCS
- brain stem function
- motor function
 - motor response
 - tone
 - reflexes
 - seizures

altered consciousness - assessment

Pupils

- unilateral dilated, no light reflex -
 III N. damage, uncal herniation
- bilateral mid-position, no light reflex -
 midbrain lesion
- bilateral pinpoint pupils -
 pontine lesions
- bilateral small, reactive -
 metabolic

altered consciousness - assessment

eye position, eye movements

- III N palsy, VI N palsy
- conjugate gaze palsy
 - cortical - 'patient looks towards the lesion'
away from paralysed side
 - pontine - towards paralysed side

altered consciousness - assessment

oculo-cephalic reflex (doll's eye movements)

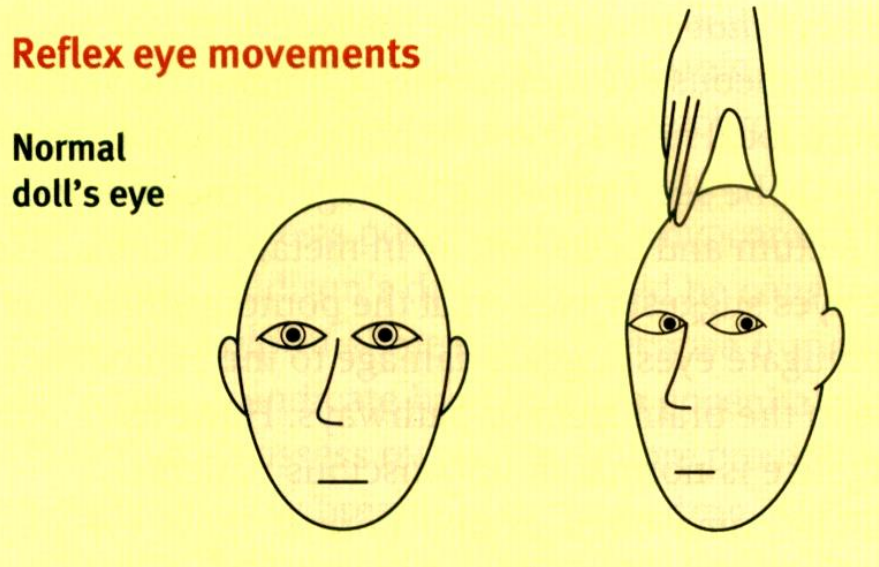
Reflex eye movements

Normal
doll's eye



altered consciousness - assessment

oculo-cephalic reflex (doll's eye movements)



absent in

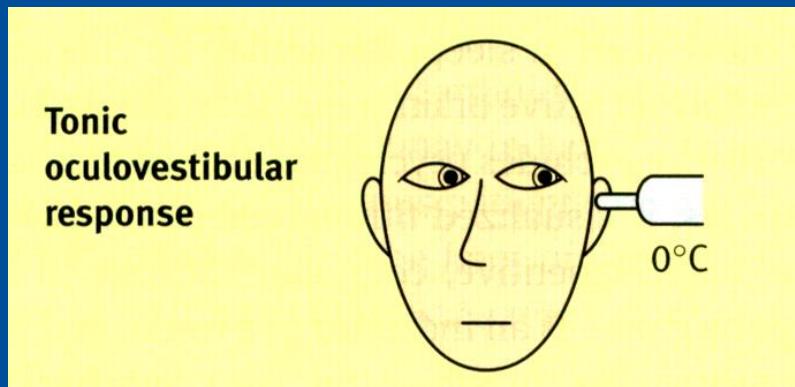
- normal, conscious
- coma due to brain stem damage

present

- coma due to diffuse cortical dysfunction

altered consciousness - assessment

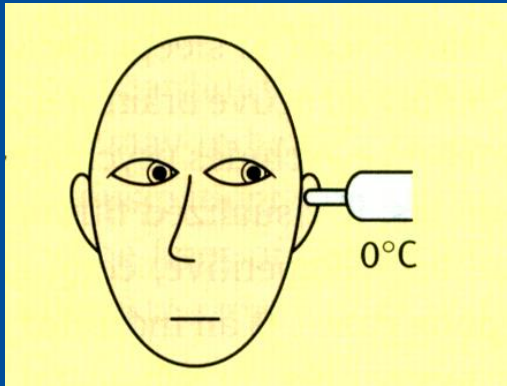
vestibulo-ocular reflex (caloric testing)



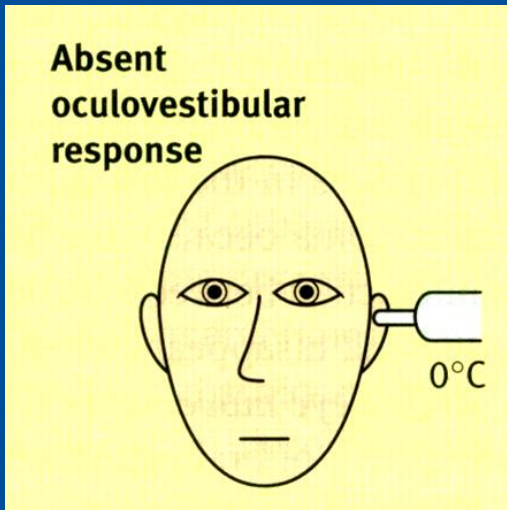
- normal
 - tonic eye deviation towards ice water (cold calls)
 - nystagmus away

altered consciousness - assessment

vestibulo-ocular reflex (caloric testing)



- absent in brain stem damage



Unconscious Patient - Management

Unconscious Patient - Management

- ABC, resuscitation
- look for cause, treat cause, injuries
- nursing care
 - fluids, nutrition, feeding
 - oral, eye, skin, bladder, bowel
- physiotherapy - chest, limbs
- prevent, treat complications
 - pressure sores, infections, DVT, ...

Unconscious Patient - Management

- coma with focal deficits
 - trauma, haemorrhage/ infarct
- coma with meningeal irritation
 - SAH, infection
- coma with no focal deficits, no meningeal irritation
 - metabolic, hypoxia, toxic, infection, ...

