

UHS RSCH ICU Neurosurgical Prompt Cards

Initial Traumatic Brain Injury Goals

See also: 'Guidelines for the Management of Traumatic Brain Injury' on
Microguide:

Clinical Guidelines ICU > Neuro > TBI Management of Traumatic Brain Injury

ICP < 22 mmHg

CPP > 60 mmHg (*if no ICP sensor MAP > 80 mmHg*)

Arterial transducer must be levelled to the tragus/external auditory meatus

Core Temp < 38 °C (avoid ≥ 38 °C)

PaO₂ > 13 kPa **PaCO₂** 4.7 – 5.3 kPa

Patient should be ventilated in SIMV (PRVC) + PS (SERVO U) to maintain stable etCO₂/PaCO₂

Haemoglobin > 80 g/l

Blood glucose 4.5-10 mmol/l

Licox P_{bt}O₂ >20 mmHg

Once ICP +/- Licox inserted then use prompt cards with tiered therapy approach for ICP or ICP/Licox Monitoring

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Initial Traumatic Brain Injury Management

Essential monitoring and access:

Standard ICU monitoring plus:

- Wide bore oro-gastric tube or naso-gastric tube if no base of skull fracture or suspected base of skull fracture
- Core Temperature monitoring – oesophageal or rectal probe
- ICP +/- brain tissue O₂ monitoring (Licox) if appropriate
- BIS monitoring to ensure adequate sedation – mandatory if using paralysis

Additional monitoring if required:

1: Cardiac output monitoring:

- *To be inserted if no response to IV fluids and no response to 0.2 mcg/kg/min of noradrenaline*
- *If acute or pre-existing cardiac disease*
- *Systemic sepsis*
- *Cardiac contusion*
- *Pulmonary oedema*

2: Peripheral nerve stimulator if administering muscle relaxants

3: Consider EEG if suspecting seizures or during barbiturate coma

Specific investigations above baseline:

- Troponin if chest trauma or >50 yrs or if history indicates
- Triglyceride level as baseline (not lipid levels)
- CK – particularly with limb/crush injuries or Propofol infusion >48 hrs or high dose
- Consider urine and serum osmolality and urine electrolytes if urine output >200 mls/hr for >3 hrs consecutively