

ACUTE MANAGEMENT

- Pre-hospital
- ED
- +/- theatre
- ICU



EMERGENCY DEPT

Table 2 Summary of management goals in TBI

Systems	Management goals
Airway	Early tracheal intubation if GCS ≤ 8 or unable to maintain respiratory goals
Respiratory	Avoid hypoxia, maintain $SaO_2 > 97\%$, $PaO_2 > 11$ kPa Maintain a $PaCO_2$ value of 4.5–5.0 kPa Hyperventilation, a $PaCO_2$ value of 4.0–4.5 kPa reserved for impending herniation
CVS	Avoid hypotension, maintain MAP > 80 mm Hg Replace intravascular volume, avoid hypotonic and glucose-containing solutions Use blood as necessary, reverse existing coagulopathy Vasopressor agents as necessary to maintain CPP
Brain	Monitor ICP, avoid ICP > 20 mm Hg Maintain CPP > 60 mm Hg Adequate sedation and analgesia Hyperosmolar therapy, keep $Na^+ < 155$ mmol l^{-1} , $P_{osm} < 320$ mosm l^{-1} CSF drainage Treat seizures Barbiturate coma, decompressive craniectomy, hypothermia, all reserved for elevated ICP refractory to standard medical care
Metabolic	Monitor blood glucose, aim for blood glucose 6–10 mmol l^{-1} Avoid hyperthermia DVT thromboprophylaxis

CVS, cardiovascular; ICP, intracranial pressure; CPP, cerebral perfusion pressure; P_{osm} , plasma osmolarity; CSF, cerebrospinal fluid; DVT, deep vein thrombosis.