

Drowning

IF PATIENT IS IN CARDIAC ARREST

Resuscitation as per APLS

Insert oesophageal temperature probe; if temp < 34.9°C, consult *SORT Hypothermia guideline*

C-SPINE PROTECTION

Low risk of injury (~0.5%) but consider mechanism: unwitnessed event, facial injury, high energy

AIRWAY/BREATHING

INDICATIONS FOR INTUBATION

- Airway compromise
- Sats <92% despite high-flow oxygen
- GCS <8 or cerebral agitation
- Use cuffed ET tube + NG tube

LUNG PROTECTIVE VENTILATION

- Permissive hypoxia: sats 88-92%
 - PEEP 10-15 if needed for oxygenation
 - Tidal volume 6-8 ml/kg, max PIP 30 cmH₂O
 - Likely to need secretion clearance
- See SORT Initiation of Ventilation guideline*

CIRCULATION

- 2 x IV/IO access +/- arterial line
- Correct hypovolaemia; consider blood early in trauma; fluid restrict to 2/3rd maintenance
- Target age-appropriate MAP
- Consider early vasoactive support (see *SORT drug calculator*)

DISABILITY

ASSESSMENT OF NEUROLOGY

- Document GCS pre-intubation
- Exclude other causes of reduced GCS
- Pupil assessment

NEUROPROTECTIVE MEASURES

- 15-30° head up tilt, no collar
- Keep PaCO₂ 4.5-5 kPa & Na 145-150 mmol/L
- Sedation (morphine & midazolam), muscle relaxant
- Actively warm to 32°C, then prevent hyperthermia
- Normoglycaemia
- Seizure prophylaxis: levetiracetam 40mg/kg

EXPOSURE

- Measure temperature (e.g. low-reading thermometer)
- Remove wet clothes, warm environment, blankets
- If temperature ≤ 34.9°C: *SORT Hypothermia guideline*
- Trauma secondary survey: identify other injuries

INVESTIGATIONS

- ECG: arrhythmia, long QT (consider IV Mg)
- Blood gas, FBC, U&E, LFT, coagulation, CK, glucose
- Chest X-ray/lung POCUS
- Consider CT (for trauma or cause of collapse)
- Consider toxicology screen

POOR PROGNOSTIC FACTORS

age < 3yrs; submersion > 10min; time to CPR > 10min; CPR > 30min; pH < 7.1 or PaO₂ < 8 Kpa despite treatment

Additional equipment to have available:

Oesophageal temperature probe, trauma shears, humidifier, warm fluids, Bair hugger, bladder syringe

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www.sort.nhs.uk