University Hospitals of Leicester NHS Trust | Nottingham University Hospitals NHS Trust

Poisoning in Children and Young People

This guideline is for use by healthcare staff, at CoMET undertaking critical care retrieval, transport and stabilization of children, and young adults.

CoMET is a Paediatric Critical Care Transport service and is hosted by the University Hospitals of Leicester NHS trust working in partnership with the Nottingham University Hospitals NHS Trust.

The guidance supports decision making by individual healthcare professionals and to make decisions in the best interest of the individual patient.

This guideline represents the view of CoMET, and is produced to be used mainly by healthcare staff working for CoMET, although, professionals, working in similar field will find it useful for easy reference at the bedside.

We are grateful to the many existing paediatric critical care transport services, whose advice and current guidelines have been referred to for preparing this document. Thank You.

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Approved By:	**Policy & Guidelines Committee**
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Version:	**2**
Next Review Date:	**February 2030**

Education and Training

1. Annual Transport team update training days
2. Workshops delivered in Regional Transport Study days/ Outreach

Monitoring Compliance

What will be measured to monitor compliance	How will compliance be monitored	Monitoring Lead	Frequency	Reporting arrangements
Incident reporting	Review related Datix	Abi Hill – Lead Transport Nurse abi.hill@uhl-tr.nhs.uk	Monthly	CoMET Lead Governance Meeting
Documentation Compliance	Documentation Audit	Abi Hill – Lead Transport Nurse abi.hill@uhl-tr.nhs.uk	3 Monthly	CoMET Lead Governance Meeting

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National Poison Information Service
0344 892 0111

Suspicion of poisoning?
Manage symptoms and supportive care

If known toxin:
Consult specific guidance on
ToxBase

Airway

Airway
AVPU
Secretions/Vomit
Obstruction (sedative agents)
Evidence of caustic agents

Airway
Suction
Simple airway opening measures
Guedel airway/NPA's
Consider I&V

Breathing

Breathing
Bradypnoea (sedatives, opiates, barbiturates, ethanol)
Tachypnoea (amphetamines, aspirin, CO, cyanide, antifreeze, methanol, salicylates)
Cyanosis (?methaemoglobinaemia)

Breathing
CXR, Blood gas (including MetHb fraction)
Oxygen
Consider mechanical ventilation

Circulation

Circulation
Bradycardia (β-blockers, clonidine, organophosphates)
Tachycardia (amphetamines, cocaine, tricyclics)
Arrhythmias
Hypotension
Hypertension

Circulation
12-lead ECG (prolonged QT/VT)
10mL/kg crystalloid (plasmalyte if available) over 15 minutes and reassess. If shock persists consider further boluses (10mL/kg) up to a total of 40mLs/kg – if still shocked consider inotropes
Arrhythmia management - see CoMET guideline
Suspected TCA OD- Consider NaHCO3
Bradyarrhythmia+ low BP- consider atropine

Disability

Disability
Pupils – Small (opiates, organophosphates, phenothiazines)
Large (amphetamines, atropine, cannabis, cocaine, tricyclics)
Seizure activity
Altered mental status (depression/agitation)
Reflexes
Glucose

Disability
Manage seizure activity- avoid phenytoin.
Appendix 1 for APLS Guideline
Reduced GCS
Monitor any hyper-reflexia (serotonin syndrome)
Manage any hypoglycaemia

Exposure

Exposure
Temperature
Any rashes/burns

Exposure
Temperature management – consider active cooling (malignant hyperthermia)
Consider decontamination if skin or eye exposure

Activated Charcoal
More effective the sooner it is given, ideally within **1** hour and needs protected airway.
See BNFC for contra-indications
Consider giving anti-emesis

Refer to Comet if:
Respiratory compromise
Hypotension not responding to fluid
Ongoing seizure activity
Arrhythmia management
Ongoing electrolyte disturbance

Methaemoglobinaemia.
Apparent cyanosis persistent despite oxygenation
Causes fatigue, dizziness, headaches, reduced consciousness, seizures, black/brown urine
Can be treated by methylthioninium chloride (methylene blue)

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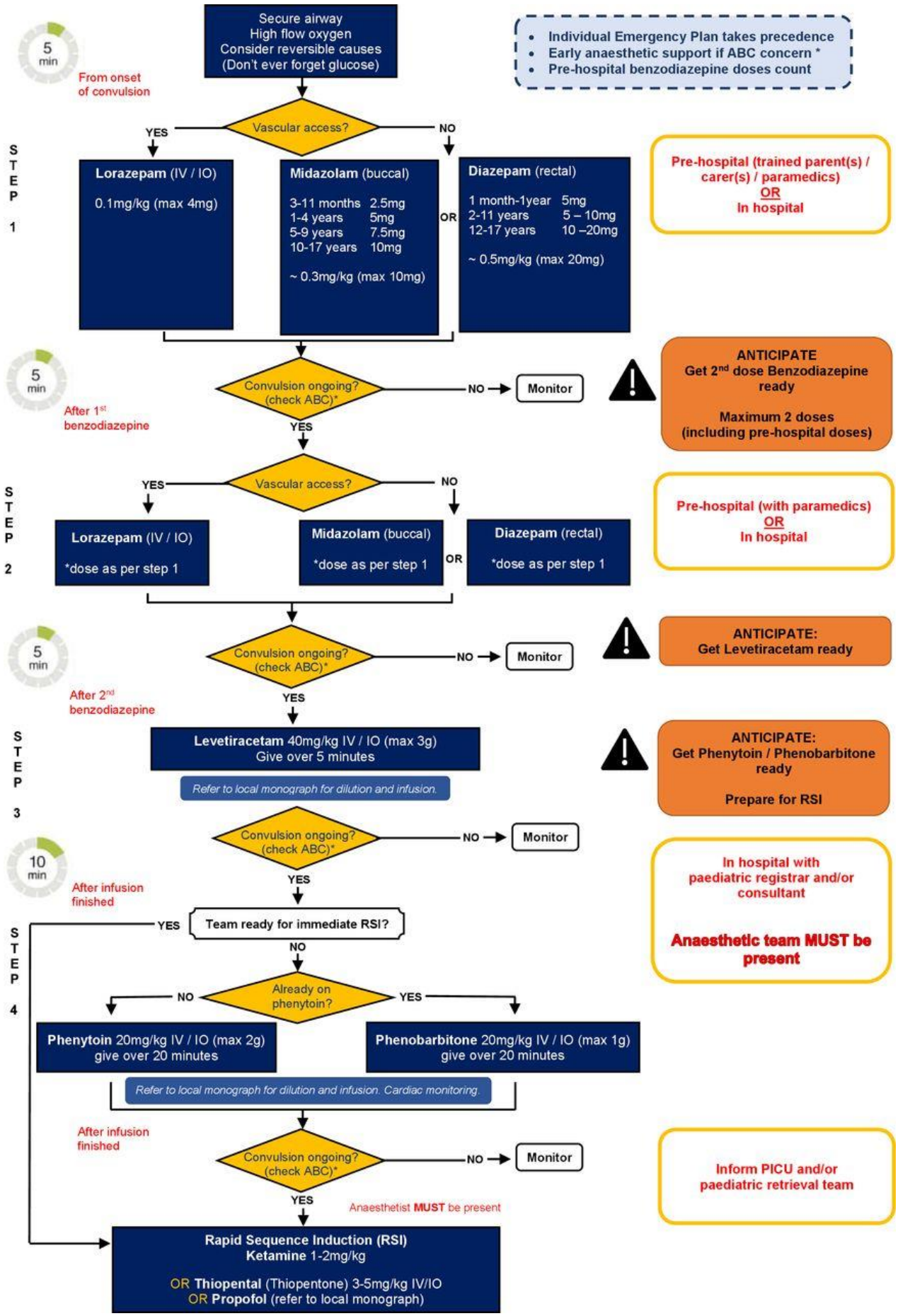
Table 1: Common Poisoning syndromes (toxidromes)

Toxidrome	Mental status	Vital signs	Skin	Pupils	Other manifestations	Examples of causative agents
Excitatory						
Sympathomimetic	Hypervigilance Agitated delirium (can be violent) Hallucinations Paranoia	**T:** Increased **HR:** Increased **RR:** Increased **BP:** Increased	Wet	Dilated	Seizures Widened pulse pressure	Amphetamines Cocaine Ephedrine Phenylpropanolamine Pseudoephedrine
Anticholinergic	Hypervigilance Agitated delirium (usually easily controlled) Hallucinations (picking at objects in air) Mumbling speech (described as "mouth full of marbles")	**T:** Increased **HR:** Increased (but may be normal in early poisoning) **RR:** Increased **BP:** Increased or normal	Dry and flushed	Dilated	Dry mucous membranes Decreased bowel sounds Urinary retention Choreoathetosis Seizures (rare)	Diphenhydramine (and other antihistamines) Atropine and similar agents (hyoscyamine, dicyclomine, scopolamine, and naturally occurring belladonna alkaloids [eg, jimson weed]) Tricyclic antidepressants Cyclobenzaprine Orphenadrine Phenothiazines
Hallucinogenic	Hallucinations Perceptual distortions (typically visual) Depersonalization Synesthesia Agitation (can sometimes occur and without delirium)	**T:** Increased or normal **HR:** Increased or normal **RR:** Increased or normal **BP:** Increased or normal	Variable	Dilated (usually)	Nystagmus (phencyclidine, ketamine) Tachycardia, hypertension, agitated delirium (designer phenethylamines)	Designer phenethylamines and tryptamines (eg, MDMA ["ecstasy"], MDEA) Ketamine and methoxetamine LSD and psilocybin Phencyclidine Mescaline
Serotonin syndrome (serotonin toxicity)	Agitated delirium Confusion Awake and unresponsive hyperreflexia	**T:** Increased **HR:** Increased **RR:** Increased **BP:** Increased	Wet, flushed, or normal	Dilated	Tremor, hyperreflexia, clonus (typically in lower extremities) Roving eye movements (ocular clonus) Diarrhoea	MAOIs Tricyclic antidepressants SSRIs and SNRIs Dextromethorphan Pethidine
Inhibitory						
Opioid	Sedation Coma	**T:** Decreased or normal **HR:** Decreased or normal **RR:** Decreased or apneic **BP:** Decreased or normal	Variable	Constricted (may be pinpoint)	Noncardiogenic pulmonary oedema Can develop hypotension	Opioids (eg, fentanyl and analogues, heroin, morphine, methadone, oxycodone, hydromorphone) Antimotility drugs: Diphenoxylate (lomotil) Loperamide

Sedative-hypnotic	Sedation Confusion Stupor Coma	**T:** Decreased or normal **HR:** Decreased or normal **RR:** Decreased, apnoeic, or normal **BP:** Decreased or normal	Variable	Variable	Nystagmus Barbiturates can cause respiratory depression or apnoea	Benzodiazepines Barbiturates Ethanol and other alcohols Gabapentin and pregabalin Zolpidem
Cholinergic	Sedation Confusion Stupor Coma	**T:** Normal **HR:** Low (may be increased in early poisoning) **RR:** Decreased or increased **BP:** Decreased or normal	Wet	Constricted	Seizures (typically occur early) Salivation Urinary and faecal incontinence Vomiting, diarrhoea, abdominal cramps Bronchorrhea and bronchoconstriction Muscle fasciculations and paralysis Weakness	Organophosphate and carbamate insecticides Nerve agents Nicotine Physostigmine Rivastigmine Bethanechol Pilocarpine

T: temperature; HR: heart rate; RR: respiratory rate; BP: blood pressure; MDMA: 3,4-methylenedioxymethamphetamine; MDEA: 3,4-methylenedioxy-N-ethylamphetamine; MAOIs: monoamine oxidase inhibitors; SSRIs: serotonin-specific reuptake inhibitors; SNRIs: serotonin-nonspecific reuptake inhibitors

Appendix 1: APLS Status Epilepticus Guidelines (2022 Update).



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Version	Issue Date	Author(s)	Description
2	October 2024	Swaroop Arghode Kathryn Taylor	ToxBase login details removed, further reference added