

SECTION: PM-09

**PROTOCOL TITLE: PEDIATRIC TOXICOLOGICAL
EMERGENCIES**

REVISED: November 1, 2017

GENERAL COMMENTS: This protocol directly supplements protocols R-1 through R-10 (Adult Toxicological Emergencies.)

BLS SPECIFIC CARE: *See General Pediatric Care Protocol PM-1*

Scene safety:

- Insure law enforcement is on scene for traditional overdoses
- Wear appropriate PPE including respiratory and topical skin protection
- Request HAZMAT for suspected toxic exposure, such as meth labs, chemical mishaps, and topical poisons

In addition to standard medical history obtain:

- Name of ingested substance
- Quantity ingested
- Time of ingestion
- Has vomiting occurred?

Basic BLS assessments and V/S every 15 minutes unless unstable, then reassess and V/S every 5 minutes

- Assess a Blood Glucose. Treat as appropriate. *See Pediatric Hypoglycemia Protocol (PM-06)*
- *Obtain Temperature*

All toxicological emergencies *shall* receive ALS evaluation.

Patients with respiratory complaint or abnormality should receive supplemental oxygen, regardless of oxygen saturation. Assist ventilations as needed

Restraints may be used for patient and/or rescuer safety

AEMT/O.M. Specific Care: *See General Pediatric Care Protocol PM-1*

ALS SPECIFIC CARE: *See General Pediatric Care Protocol PM-1*

12 Lead ECG for all pediatric toxicological emergencies.

Seizures secondary to toxic ingestion:

- Follow Pediatric Seizure Protocol (PM-4)

Hypotension secondary to toxic ingestion:

- Follow Pediatric Hypotension and Shock Protocol (PM-5)

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PEDIATRIC TOXICOLOGICAL EMERGENCIES

Suspected (symptomatic) opiate ingestion:

- Narcan
 - IV/IO: 0.01 - 0.05 mg/kg to max single dose of 2 mg. Administer slowly. Repeat as needed every 1-2 minutes to a maximum of 10 mg.
 - IM/IN: 2-4 mg. Repeat as needed to a maximum of 10 mg. To be used if IV/IO access is unavailable.
 - If patient has obviously aspirated, consider bypassing Narcan and manage airway as required.
 - IV/IO in cardiac arrest: 2 mg

Suspected TCA overdose: (do not administer Amiodarone)

- Sodium Bicarbonate for hypotension, arrhythmia, QRS >100 ms
 - IV: 1 meq/kg IV
 - Re-bolus in 5-10 min at 1 meq/kg if s/s persist

- Magnesium Sulfate (*for Torsades REFRACTORY to sodium Bicarbonate*)

- IV/IO: 25-50 mg/kg in 100 ml Buretrol over 2-5 minutes, **MAX 2 GM**

Calcium channel blocker/beta blocker ingestion

- **Calcium Chloride (for Calcium Channel Blockers Only)**

- IV (Slow): 20 mg/kg over 10 minutes until s/s improve

- **Glucagon**

- IV, IM, SQ: 0.1 mg/kg to a max of 1 mg every 5 minutes as needed and as available
- Do not use diluents (e.g. propylene glycol) supplied with single use kits. Use Normal Saline instead

- **Epinephrine Infusion**

- 0.1-2 mcg/kg/min, see drug index

Organophosphate Exposure

- Atropine Sulfate

- IV/IO/IM: 0.05 mg/kg, repeated PRN for continued symptoms

Hyper-dynamic drug ingestion/exposure (with active s/s)

- Diazepam (Valium)
 - IV/IO/IM: 0.2 mg/kg every 5-10 min PRN to a max of 10 mg
- Midazolam (Versed)
 - IV/IO: 0.1 mg/kg every 5-10 min (over 2-5 minutes if IV). Maximum dose of 2.5 mg
 - IN/IM: 0.2 mg/kg repeat every 5 min PRN. If no IV access is available (Max 5mg)

EPS:

- Benadryl (Diphenhydramine)
 - IV/IM: 1 mg/kg IVP max of 25 mg

PHYSICIAN PEARLS:

The following are high risk toxicological situations that should be evaluated at a hospital regardless of clinical stability. *These are the substances that, for a variety of reasons, result in the highest ICU admissions.*

- **Any situation where 2 or more agents/drugs may be involved** (Poly-Pharmacy ingestion). 44% of fatal pediatric overdoses involve more than one substance
- **Iron Ingestions** (as little as 20-60mg/kg) Iron ingestions may present with a latent period at about 1-6 hours with cardiovascular collapse occurring 12-24 hours post ingestion. Commonly found in OTC supplements, *iron ingestions are a leading cause of pediatric fatal ingestion*
- **Hyper-dynamic Drug Ingestions/Meth Lab exposures**
- **Antidepressants** of any type: Tricyclic Antidepressants (TCAs) are especially high risk
- **Anticonvulsants**
 - Benzodiazepines
 - Depakote
- **Digitalis** (Nightshade) or Digitalis containing substances. (Digoxin)
- **Opiates**
- **Hydrocarbon-based household products:**
 - Gasoline, kerosene, etc
 - Gases & fumes (huffing)
- **Alcohols** (any type): Alcoholic Beverages, Wood Alcohol, Isopropyl alcohol, Etc.
- **Cleaning substances**

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In addition to the above substances, the following situations and symptoms are also worrisome with suspected toxic ingestion, and should be transported to the hospital.

- Sudden onset of:
 - Abdominal pain
 - Nausea
 - Vomiting
 - Seizures
 - Coma
 - Decreased LOC
 - Bizarre behavior
 - Abnormal walking gait
- Sudden onset of unexplained illness
- Bizarre, incomplete, evasive history
 - Suspect abuse, neglect, or illegal activity
- Pediatric patient with cardio-respiratory distress