Poisoning and Overdose

Description

a. This guideline is designed to assist the prehospital provider with the treatment of various types of poisoning and overdose victims.
b. Although there are some nuances to each individual poison and/or overdose the general treatment is predominantly the same and includes: scene safety, maintain airway patency, treat for shock when clinically indicated and transport to the closest appropriate facility.
   • The prehospital provider is not expected to know every substance in an overdose or poisoning but rather the general classification or toxidrome (see below).
c. Consider contacting Poison Control at 1-800-222-1222
   • Poison Control may assist in allowing a patient to stay at home for nontoxic ingestions/exposures as well as assist in the management of toxic ingestions.
   • A release of care (refusal) **MUST** be completed if the patient is not transported

Special Considerations

a. Symptoms differ, but certain common syndromes may suggest particular toxidrome
   • Different patients poisoned with the same substance may present with very different symptoms.
   • Patients who have multiple substances are less likely to have symptoms characteristic of a single substance
b. There are few specific "antidotes." Product labels and home kits can be misleading and dangerous.
c. Do not neutralize acids with alkalis. Do not neutralize alkalis with acids. These "treatments" cause heat-releasing chemical reactions that can further injure the GI track.
d. A commonly missed external contamination is gasoline. Be sure that gasoline spilled on trauma victims is washed off promptly and clothing removed to prevent irritant burns.
e. Inhalation poisoning is particularly dangerous to rescuers. Recognize an environment with continuing contamination, don proper PPE, and extricate rapidly or avoid altogether.
f. Treat seizures per **SEIZURE GUIDELINE**
g. Treat nausea and vomiting per the **NAUSEA VOMITING GUIDELINE**
h. If the patient is presenting with withdrawal symptoms, treat per **BEHAVIORAL EMERGENCY GUIDELINE**
i. **DO NOT** rely on patient history of ingestion, especially in suicide attempts
j. If applicable, consider **HAZMAT and DECON GUIDELINE**
k. If available, consider administering **ACTIVATED CHARCOAL** with sorbitol if ingestion <1 hour and patent airway, but may consider in longer onsets if salicylate (aspirin) overdose.

Specific Toxidrome Information

<table>
<thead>
<tr>
<th>Toxidrome</th>
<th>Mental Status</th>
<th>Pulse</th>
<th>RR</th>
<th>BP</th>
<th>Pupil</th>
<th>Skin</th>
<th>Temp</th>
<th>Specific Medication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opiate</td>
<td>Depressed</td>
<td>↓</td>
<td>↓</td>
<td>↓</td>
<td>Pinpoint</td>
<td>Cool</td>
<td>↓</td>
<td>Narcan</td>
</tr>
<tr>
<td>Sedative-hypnotic</td>
<td>Depressed</td>
<td>↓</td>
<td>↓</td>
<td>↓</td>
<td>Normal</td>
<td>Normal</td>
<td>Normal</td>
<td>NA</td>
</tr>
<tr>
<td>Sympathomimetic</td>
<td>Agitated</td>
<td>↑</td>
<td>Normal</td>
<td>↑</td>
<td>Dilated</td>
<td>Diaphoretic</td>
<td>↑</td>
<td>Benzodiazepine</td>
</tr>
<tr>
<td>Cholinergic</td>
<td>Agitated/delirium</td>
<td>↑</td>
<td>↑</td>
<td>↑</td>
<td>Dilated</td>
<td>Diaphoretic</td>
<td>Normal</td>
<td>Atropine</td>
</tr>
<tr>
<td>Anticholinergic</td>
<td>Agitated/delirium</td>
<td>↑</td>
<td>↑</td>
<td>↑</td>
<td>Dilated</td>
<td>Dry</td>
<td>↑</td>
<td>Benzodiazepine</td>
</tr>
</tbody>
</table>

Withdrawal Syndromes

| Opioids   | Agitated | ↑ | ↑ | ↑ | Dilated | Normal to wet | ↑ | Opioid |
| Sedative-hypnotic | Normal | ↑ | Normal | ↑ | Dilated | Wet | Normal | Benzodiazepine |
Poisoning and Overdose

Initial assessment
Maintain patent airway and **OXYGENATION**
Acquire VS & early 12-lead EKG if clinically indicated
Identify substance

Establish vascular access, consider **FLUID THERAPY**

Specific Substance

- **YES**
  - Signs of poor perfusion
    - **NO**
      - **General supportive care**
    - **YES**
      - **Specific Substance**

  **Beta Blocker**

  - **GLUCAGON; PRN x 1 if available**
    - ADULT: Maximum available dose up to 5 mg IV/IO
    - PEDIATRIC: 0.1 mg/kg IV/IO/IM

  **Consider ATROPINE; PRN every 1 minute for symptom resolution**
    - ADULT: 1 mg bolus IV/IO
    - PEDIATRIC: 0.02 mg/kg bolus IV/IO

  **Calcium Channel Blocker**

  - **CALCIUM CHLORIDE; PRN every 10 minutes to a MAX of 3 doses**
    - ADULT: 1 gram slow bolus over 2 to 5 minutes IV/IO
    - PEDIATRIC: 20 mg/kg slow bolus over 2 to 5 IV/IO; NOT to exceed 1 gram

    OR

    - **CALCIUM GLUCONATE; PRN every 10 minutes to a MAX of 3 doses**
      - ADULT: 3 grams slow bolus over 2 to 5 minutes IV/IO
      - PEDIATRIC: 60 mg/kg slow bolus over 2 to 5 minutes IV/IO; NOT to exceed 1 gram

  - **GLUCAGON; PRN x 1 if available**
    - ADULT: Maximum available dose up to 5 mg IV/IO
    - PEDIATRIC: 0.1 mg/kg IV/IO/IM

- **NO**
  - **Tricyclic or other Na+ Channel Blocker with QRS >100 ms**

  - **SODIUM BICARBONATE; PRN until cessation of seizures or QRS shortens to <100 ms (if applicable)**
    - ADULT and PEDIATRIC: 1 mEq/kg bolus IV/IO of an 8.4% solution
    - In severe cases consider drip; Mix 150 mEq (150 mL) in 1000 mL NS and administer at 200 mL/hr

Consider (If perfusion does NOT improve in any poisoning or overdose)

**EPINEPHRINE INFUSION**

- ADULT and PEDIATRIC: 1 mg (1 mL) of Epinephrine in a 1,000 mL NS bag, infuse wide open to gravity in small increments to achieve a BP >90 systolic and/or return of distal pulses, and/or improved mental status
Poisoning and Overdose

Organophosphate
- SLUDGE syndrome
- Consider scene safety
  - ATROPINE: PRN every 1 minute for symptom resolution
    - ADULT: 2 mg bolus IV/IO
    - PEDIATRIC: 0.05 mg/kg bolus IV/IO

Stimulant
- Treat per BEHAVIORAL EMERGENCY GUIDELINE

Carbon Monoxide
- Cardiac Arrest
  - YES
  - Treat per MEDICAL CARDIAC ARREST GUIDELINE
  - Consider (if available AND suspected cyanide)
    - CYANOKIT PRN x1
      - ADULT: 5 gram IV/IO
      - PEDIATRIC: 70 mg/kg IV/IO
  - NO

Opioid
- NALOXONE:
  - ADULT: 0.5 to 1 mg bolus IV/IO/IM/IN
  - PEDIATRIC:
    - >20 kg: 0.5 mg bolus IV/IO/IM/IN titrate up to 2 mg total
    - <20 kg or Neonate: 0.01 mg/kg bolus IV/IO/IM/IN up to 2 mg

SpO2 ≥ 15%
- YES
  - General supportive care
  - Administer 100% FiO2
- NO
  - General supportive care
Poisoning and Overdose

**Cyanide Toxicity**
- Consider scene safety
- **CYANOKIT PRN x1**
  - **ADULT:** 5 gram IV/IO
  - **PEDIATRIC:** 70 mg/kg IV/IO
  OR
  **CYANIDE ANTIDOTE KIT**
- Administer 100% FiO₂
- General supportive care

**Aspirin / Salicylate**

**SODIUM BICARBONATE:**
- **ADULT:** Mix 150 mEq (150 mL) in 1000 mL D5W and administer at 200 mL/hr (may mix in NS if D5W not available)
- **PEDIATRIC:** Mix 150 mEq (150 mL) in 1000 mL D5W and administer at 200 mL/hr (may mix in NS if D5W not available)