

## **POISONING AND OVERDOSE**

APPROVED: Gregory Gilbert, MD EMS Medical Director  
Louise Rogers Interim EMS Administrator

DATE: February 2013

### **Information Needed:**

- Surroundings and safety: check for syringes, container, gas cylinders, etc.
- Note odors in house or surroundings
- For medication ingestions: note medication(s), dosage(s), number remaining and date of prescription(s), and bring container(s) with patient
- For other poisoning and exposures; if possible, note identifying information, warning labels, or numbers on packaging
- Duration of illness: onset and progression of their present state, antecedent symptoms such as headache, seizures, confusion, etc.
- History of event: ingested substances, drugs, alcohol, toxic exposures, suicidal intention, and the work environment
- Past medical history, psychiatric problems, suicidal ideation
- If possible, corroborate information with family members or responsible bystander
- Refer to HazMat Policy as appropriate

### **Objective Findings:**

- Breath odor
- Needle tracks
- Medic Alert tags/bracelet/medallions
- Cardiac rhythm
- Blood glucose level for patients with AMS
- Pulse oximetry
- Vital signs
- Skin appearance, color, temperature
- Pupil size
- Lung sounds and airway secretions

### **General Treatment:**

- Primary Survey, ensure protective position or need for spinal precautions
- Routine Medical Care
- Ensure ABCs, oxygenation, ventilation, and suction as needed
- Oxygen as indicated. Assist ventilations with BVM if needed
- Consider IV/IO access
- Activated charcoal (50 g) for possible recent ingestions if patient is alert with intact airway reflexes

- Caustic or hydrocarbon (lye or gasoline) ingestions are contraindications to activated charcoal; use with caution in tricyclic antidepressants or other medications that can cause seizures when overdosed

### **Unknown Substance:**

- Consider IV/IO access
- Naloxone 1-2 mg IV/IO or IM for patients with the following: pinpoint pupils, inadequate ventilation, and a decreased mental status. Repeat naloxone as needed
- If hypoglycemia is suspected or determined (<80 mg/dL) see Altered Mental Status protocol
  - D<sub>50</sub>W 25 g IV/IO, may repeat as indicated
  - Consider **glucose paste** or other oral glucose administration if patient is able to maintain his airway and swallow the solution without difficulty
  - Glucagon 1mg IM if IV access is not immediately available. May repeat once after 10 minutes if blood glucose <80 mg/dL
- If hypotensive (SBP<90 or signs of poor perfusion), fluid challenge of 250-1000 ml NS. If SBP remains <90 continue fluid resuscitation. Titrate to SBP of 90 or symptoms of improved perfusion
- Activated charcoal 50 g orally for patients able to maintain their own airway
  - Caustic or hydrocarbon ingestions are contraindications to activated charcoal
- Continuously monitor vital signs and cardiac rhythm during transport

### **Opiates:**

- Airway management
- Naloxone 1-2 mg IV/IO or IM for patients with the following: pinpoint pupils, inadequate ventilation, and a decreased mental status. Repeat naloxone as needed

### **Antipsychotics with Extrapiramidal (Dystonic) Reaction:**

- Routine medical care
- Diphenhydramine 25-50 mg IV, IO, or IM

### **Organophosphates:**

- Consider HazMat Precautions
- Atropine 2 mg IV, IO, or IM: repeat q 2-5 minutes, until SLUDGE symptoms (increased salivation, lacrimation, urination, diaphoresis/diarrhea, gastric hypermotility/vomiting and miosis) subside
- Consider early receiving hospital contact to allow for hazmat preparation

### **Tricyclic Antidepressants:**

- IV access
- If intubated, hyperventilate with 100% oxygen
- Sodium bicarbonate 1 mEq/kg IV/IO, for tachycardia, hypotension, seizure, and/or QRS widening >0.10 seconds. May repeat with 0.5 mg/kg as needed q10 minutes
- For ventricular dysrhythmias, follow appropriate protocol
- For seizures, follow AMS/Seizure Protocol

### **Calcium Channel Blocker Toxicity:**

- Routine medical care
- Ensure ABC's, oxygenation, ventilation and suction as needed
- IV access, give fluid challenge if indicated
- Activated charcoal 50 g orally for patients able to maintain their own airway
- In the setting of bradycardia and hypotension, administer calcium chloride 1 g IV/IO q 20 minutes slow push
- Calcium chloride causes major tissue damage if extravasation occurs; use extra caution that the IV line is patent, properly located, and secured.

### **Beta-Blocker Toxicity:**

- Routine medical care
- Ensure ABC's, oxygenation, ventilation and suction as needed.
- IV/IO access with a bolus of NS
- Activated charcoal 50 g for patients able to maintain their own airway
- In the setting of bradycardia and hypotension caused by a beta blocker, administer Glucagon 1-5 mg IV/IO q 20 minutes

### **Nerve Gas Exposure**

- Routine medical care
- Ensure ABCs, oxygenation, ventilation and suction as needed
- Administer auto-injectors of 2-PAM and atropine to patients with possible exposure of a nerve agent (e.g., Sarin, Soman, Tabun, Vx) and have significant signs and symptoms
- The best injection site is the lateral (outside) thigh muscle several inches below the hip bone. It is important that the injection be given into a large muscle
- Indications for auto-injection of nerve gas antidote
  - Signs and symptoms (Mnemonic SLUDGE)
  - S**alivation (watering mouth)
  - L**acrimation (eyes tearing)
  - U**rination
  - D**efecation
  - G**astrointestinal pain & gas

**Emesis (vomiting)**

- Administer 2 PAM first, then atropine. If symptoms persist, another atropine auto-injection can be given in 10-15 minutes

**Precautions and Comments:**

- Base hospital contact is encouraged after treating patients exhibiting calcium channel blocker, beta-blocker, or tricyclic antidepressant toxicity due to the complexity of these calls
- In suspected opiate overdoses, avoid endotracheal intubation until the patient has received naloxone and BVM UNLESS the patient has no pulse
- Significantly higher doses of naloxone may be needed for treatment of overdoses with synthetic opioid compounds such as meperidine (Demerol<sup>®</sup>), pentazocine (Talwin<sup>®</sup>), methadone, and codeine
- Consider titrating naloxone to achieve adequate respiratory effort and avoid a withdrawal reaction or combativeness
- Avoid administration of naloxone in narcotic-dependent comfort care patients (hospice, end-stage terminal illness or DNR patients); Base Hospital contact is encouraged
- Patients with TCA overdoses may experience rapid depression of mental status, sudden seizures, or worsening of vital signs. Attentive monitoring of cardiac rhythm, vital signs, and mental status are essential in these patients. Use extreme caution if considering activated charcoal (not recommended)
- Activated charcoal is ineffective for iron overdoses
- Caustic ingestions are usually caused by alkali (e.g. lye or Draino<sup>®</sup>) or acids
- Hydrocarbons include gasoline, kerosene, turpentine, Pine-Sol<sup>®</sup>, etc.
- Consider all environmental poisonings Hazardous Materials incidents and exercise appropriate caution
- Whenever possible, bring suspected ingested substances with you to the receiving facility
- Consider contacting the California Poison Control System for additional information or advice (1-800-222-1222 [public] or 1-800-411-8080/1-800-876-4766 [Health Care])