San Mateo County Emergency Medical Services

Pediatric Overdose/Poisoning/Ingestion
For any intentional or unintentional overdose/poisoning by any route, includes illicit substances and prescription medications, overdose and/or adverse reactions.

**History**
- Ingestion or suspected ingestion of a potentially toxic substance
- Substance ingested, route, and quantity
- Time of ingestion
- Reason (suicidal, accidental or criminal)
- Available medications in home
- Past medical history and medications

**Signs and Symptoms**
- Mental status changes
- Hypo or hypertension
- Decreased respiratory rate
- Tachycardia or dysrythmias
- Seizures
- S.L.U.D.G.E.M.
- Vision impairment
- Pupillary changes

**Differential**
- Tricyclic antidepressants (TCAs)
- Acetaminophen (Tylenol)
- Aspirin
- Depressants
- Stimulants
- Anticholinergics
- Cardiac medications
- Solvents, alcohols or cleaning agents
- Insecticides (organophosphates)

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**California Poison Control Center**
(800) 222-1222

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**Pediatric Toxic Exposure Treatment Protocols**

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**Adequate age-dependent respirations and oxygenation?**

- **Yes**
  - **Blood glucose analysis**
  - **Cardiac monitor**
  - **12-Lead ECG**
  - **Consider, IV**

- **No**
  - **Appropriately manage airway**
  - **Naloxone**
    - Naloxone is titrated to effect of adequate ventilation and oxygenation
    - NOT ADMINISTERED TO RESTORE CONSCIOUSNESS
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    - Naloxone is titrated to effect of adequate ventilation and oxygenation
    - NOT ADMINISTERED TO RESTORE CONSCIOUSNESS

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**Is patient aggressive?**

- **Yes**
  - **Agitated Delirium**

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**Antipsychotic OD**

**Beta-Blocker OD**

**Tricyclic Antidepressant OD**

**Calcium Channel Blocker OD**

**If age-dependent hypotensive**

- Normal Saline bolus IV/IO
  - May repeat x2

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**If symptoms of bradycardia or hypotension**

**Glucagon**

**Sodium Bicarbonate**

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**If symptomatic bradycardia or seizure?**

- **Yes**
  - **Notify receiving facility. Consider Base Hospital for medical direction**

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**Symptomatic Bradycardia**

**Dystonic Reaction**
# Pearls

- Overdose or toxic ingestion patients with significant ingestion/exposures should be monitored very closely and aggressively treated as indicated. Do not hesitate to contact the Base Hospital or Poison Control for advice as certain critically ill overdose patients may quickly overwhelm medication supplies. For example, a tricyclic overdose with a wide QRS and altered mental status may need to receive multiple Sodium Bicarbonate boluses until QRS narrowing and clinical improvement. Note: Poison Control offers advice, not medical direction.

- Bring medication with the patient to the hospital.

- Tricyclic: Progression of toxicity include decreased mental status, dysrhythmias, seizures, hypotension then coma and death; onset can occur within 5 minutes.

- Acetaminophen: Initially normal or with nausea/vomiting.

- Opioids: Decreased heart rate, blood pressure or temperature, decreased respirations, and non-specific pupils.

- Stimulants: Increased heart rate, blood pressure or temperature, dilated pupils, and seizures.

- Anticholinergics: Increased heart rate or temperature, dilated pupils, and mental status changes.

- Cardiac medications: Dysrhythmias and mental status changes.

- Solvents: Nausea, vomiting, coughing, and mental status changes.

- Insecticides: Increased or decreased heart rate, increased secretions, nausea, vomiting, diarrhea, and pinpoint pupils. Consider restraints if necessary for patient’s or personnel’s protection per Restrains Procedure. See Hazmat protocol for insecticide treatment.

## Pediatric Toxidrome

<table>
<thead>
<tr>
<th>Toxidrome</th>
<th>Vital Signs</th>
<th>Mental Status</th>
<th>Pupils</th>
<th>Other Findings</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anticholinergic (i.e. large dose of atropine)</td>
<td>Hyperthermia (hot as hades), tachycardia, hypertension, tachypnea</td>
<td>Hypervigilant, agitated (mad as a hatter), hallucinating</td>
<td>Mydriasis (blind as a bat)</td>
<td>Dry, flushed skin (dry as a bone, red as a beet), urinary retention</td>
<td>Antihistamines, TCAs, atropine, scopolamine, antispasmodics</td>
</tr>
<tr>
<td>Cholinergic</td>
<td>Bradycardia (muscarinic), tachycardia and hypertension (nicotinic)</td>
<td>Confused, coma</td>
<td>Miosis</td>
<td>SLUDGE (Salivation, Lacrimation, Urination, Diarrhea, GI upset, Emesis)</td>
<td>Organophosphate pesticides, nerve agents, physostigmine</td>
</tr>
<tr>
<td>Hallucinogen</td>
<td>Hyperthermia, tachycardia, hypertension</td>
<td>Hallucination, synesthesia, agitation</td>
<td>Mydriasis</td>
<td>Nystagmus</td>
<td>PCP, LSD, mescaline</td>
</tr>
<tr>
<td>Opoid</td>
<td>Hypothermia, bradycardia, hypotension, bradypnea</td>
<td>CNS depression, coma</td>
<td>Miosis</td>
<td>Hyporeflexia, pulmonary edema</td>
<td>Opioids (heroin, morphine, methadone, dilaudid)</td>
</tr>
<tr>
<td>Sedative - hypnotic</td>
<td>Hypothermia, bradycardia, hypotension, bradypnea</td>
<td>CNS depression, confusion, coma</td>
<td>Mydriasis</td>
<td>Hyporeflexia</td>
<td>Benzos, barbiturates, alcohols</td>
</tr>
<tr>
<td>Serotonin syndrome</td>
<td>Hyperthermia, tachycardia, hypertension, tachypnea</td>
<td>Confused, agitated, coma</td>
<td>Mydriasis</td>
<td>Tremor, myoclonus, diaphoresis, hyperreflexia, trismus, rigidity</td>
<td>MAOIs, SSRIs, meperidine, dextromethorphan</td>
</tr>
<tr>
<td>Sympathomimetic</td>
<td>Hyperthermia, tachycardia, tachypnea</td>
<td>Agitated, hyperalert, paranoia</td>
<td>Mydriasis</td>
<td>Diaphoresis, tremors, hyperreflexia, seizures</td>
<td>Cocaine, amphetamines, pseudoephedrine</td>
</tr>
</tbody>
</table>