POISONING AND OVERDOSE - PEDIATRIC

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Information Needed:
Consider all environmental poisonings Hazardous Materials Incidents and practice appropriate caution.

- Surroundings and safety: check for syringes, containers, gas cylinders
- Note odors in house or surroundings; check if any monitors are in the home, i.e. carbon monoxide etc.
- For drug ingestions: note drug(s), dosages(s), number remaining, and date of prescription(s), and bring container(s) with the patient
- For other poisoning and exposures; if possible, note identifying information, warning labels, or numbers on packaging and bring container(s) if possible
- Duration of illness: onset and progression of their present state, preceding symptoms such as headache, seizures, confusion, etc.
- History of event: ingested substances, drugs, alcohol, toxic exposures, suicidal intention, and environment
- Past medical history, psychiatric problems, suicidal ideation
- If possible, corroborate information with caregiver, family members or responsible bystanders. Consider possible abuse/neglect when infants and young children are involved
- Utilize the Broselow Tape to measure length and then SMC Pediatric Reference Card for determination of drug dosages, fluid volumes, defibrillation/cardioversion joules and appropriate equipment sizes.

Objective Findings:

- Breath odor
- Medic alert tags/bracelet/medallions/shoelaces
- Cardiac monitor
- Blood glucose level for patients with altered mental status
- Pulse oximetry
- Vital signs
- Skin appearance
- Pupil size
- Airway, breathing, and circulation status
- Emesis, time from ingestion, checking for pill fragments

Treatment:

- Routine medical care

- Ensure ABC's, protective position or need for c-spine precautions
- Provide oxygenation, ventilation, and suction as needed
    - Oxygen via blow-by, mask, or high flow as needed; assist ventilations with BVM as needed**.**
- Activated charcoal for confirmed recent ingestions (60 minutes or less) if patient is alert with intact airway reflexes
    - Contraindicated in caustic or hydrocarbon (lye or gasoline), ingestions
    - Contraindicated in antidepressants or other overdose of medications that can induce seizures
    - Contraindicated for patients under 2 years of age
- Establish IV/IO access as indicated
- Give IV/IO fluid bolus of NS for signs of hypoperfusion. Reassess. May repeat twice as indicated. Contact Pediatric Base Hospital Physician for additional fluid orders

Unknown Substance

For pts with altered mental status, consider naloxone IV/IO/IM.

- If neonate (less than 29 days) and blood glucose less than 40 mg/dL give:
    - $D_{10\%}W$ IV/IO
    - If no vascular access, administer glucagon IM
- If older than 29 days and blood glucose less than 60 mg/dL give:
    - $D_{10\%}W$ IV/IO
    - If no vascular access, administer glucagon IM
- Continuously monitor vital signs and cardiac rhythm during transport

Opiates

- Wait until after the patient has received naloxone and BVM ventilation to determine if endotracheal intubation is indicated.
- Naloxone IV/IO/IM/IN. Repeat in 5 minutes for respiratory depression and/or significant hypoperfusion

Antipsychotics with Extrapyramidal/Dystonic Reaction

Give diphenhydramine IV/IO/IM

Organophosphates

- Consider HazMat precautions
- For SLUDGE symptoms (increased salivation, lacrimation, urination, diaphoresis/diarrhea, gastric hypermotility/vomiting and meiosis), contact Pediatric Base Hospital Physician for atropine order
- Treat seizures that do not respond to atropine with midazolam (Versed) IV/IO/IN

Tricyclic Antidepressants (TCA's)

- If BVM or intubation indicated, hyperventilate with 100% oxygen.

- Closely monitor cardiac rhythms, vital signs and mental status
- If tachycardia, hypotension, seizure, and/or QRS widening >0.10 seconds are noted, contact Pediatric Base Hospital Physician for administration of sodium bicarbonate IV/IO. May repeat half initial dosage as needed for persistent QRS widening
- Treat seizures with midazolam (Versed) IV/IO/IN as needed for persistent or recurrent seizures

Calcium Channel Blocker Toxicity

- If bradycardia and hypotension noted contact the Pediatric Base Hospital Physician for administration of calcium chloride 10% solution IV/IO q 20 minutes
    - 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

- If bradycardia and hypotension noted, contact the Pediatric Base Hospital Physician for administration of glucagon IV/IO/IM q 20 minutes

Nerve Gas Exposure

- Administer auto-injectors of 2-PAM and atropine to patients with possible exposure of a nerve agent (e.g. Sarin, Suman, Tabun, Vs) 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 and caution should be used when being given to small children
- Indications for auto-injection of nerve gas antidote
  Signs and symptoms (Mnemonic SLUDGE):
  Salivation (watering mouth)
  Lacrimation (eyes tearing)
  Urination
  Defecation
  Gastrointestinal pain & gas
  Emesis (vomiting)
- Administer 2 PAM first to children over 1 year of age, then atropine. If symptoms persist, another atropine auto-injection can be given in 3-5 minutes. Use caution when administering auto-injectors in children less than 2 years of age.

Precautions and Comments:

- Contact California Poison Control Center whenever possible to determine risks/information concerning ingested substances.

California Poison Control Center (800) 222-1222

- Consultation for medication orders should be made with Pediatric Base Hospital Physicians not Poison Control Center.
- DO NOT USE THE DOSAGES OF MIDAZOLAM listed on the Broselow Tape as they are high doses indicated for induction not seizure management. Use doses from the SMC Pediatric Reference Card.
- Naloxone should be avoided in neonates of known or suspected narcotic-addicted mothers as it can induce withdrawal reaction.
- Significantly higher doses of naloxone may be needed for treatment of overdoses with synthetic opioid compounds such as meperidine (Demerol®), pentazocine (Talwin®), and codeine
- Consider titrating naloxone to achieve adequate respiratory effort and avoid a withdrawal reaction or combativeness
- 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. Caustic ingestions are usually caused by alkali (e.g. lye or Drano®) or acids. Hydrocarbons include gasoline, kerosene, turpentine, Pine-Sol®, etc.
- For patients with known TCA, Beta-blocker, and Calcium Channel blocker toxicities note that NS fluid bolus should be initially limited to one bolus as experts recommend more cautious administration of fluids as these drugs have myocardial depressant effects and pulmonary edema may result. Orders from a Pediatric Base Physician are required for additional fluids.