Toxins and Environmental: Poisoned Patient and Overdose

Goals: Remove patient from toxic environment; identify intoxicating agent; identify antidote or mitigating agent; treat signs/symptoms in order to preserve vital functions and minimize end-organ damage
Inclusion Criteria: Patients of all ages with confirmed or suspected poisoning, intoxication or overdose of pharmaceutical, illicit or other drugs/substances
Exclusion Criteria: No specific recommendations
Refer to: Altered Mental Status, Behavioral Emergencies-Excited Delirium, Cardiac Arrest, Shock, Toxic Chemical Exposure and other, symptom-specific CPGs, e.g. Carbon Monoxide and Cyanide Exposure CPGs

NOTES:

- This CPG outlines the general approach to the patient with possible acute poisoning or overdose:
  - It cannot account for all possible poisonings, overdoses or exposures.
- Toxidrome definition: Constellation of signs and symptoms associated with exposure to a specific class of medications, drugs or toxins:
  - Toxidrome recognition may facilitate patient care, especially if an antidote or mitigating agent is available.
  - NOTE: A toxidrome may be masked or obscured in cases of multi-substance poisoning.
- **Early consultation with BioTel and the North Texas Poison Control Center is critical to coordinate patient care, especially in the following circumstances:**
  - **Confirmed or suspected multi-substance poisoning or overdose; OR**
  - **Drug(s) or substance(s) not covered by this or other BioTel CPGs; OR**
  - **Drug(s) or substances are unknown.**
- **BioTel/Poison Control Center contact is mandatory for the symptomatic and *asymptomatic* pediatric patient with confirmed or suspected poisoning or overdose.**

- **Scene safety and use of appropriate PPE assume critical importance, especially if the presence of fentanyl-related substances and/or other hazardous materials is confirmed or suspected:**
  - **Refer to the Toxic Chemical Exposure CPG**

Basic Level

1. Following scene safety principles and agency HazMat SOPs, remove patient from toxic environment
2. Assess and support ABCs according to UNIVERSAL CARE – ADULT or UNIVERSAL CARE – PEDIATRIC, as clinically indicated:
   a. A (Airway): Ensure airway patency, with positioning, suctioning and OPA or NPA, as needed
   b. B (Breathing): Provide supplemental oxygen to maintain SpO_2 of at least 94% (continuous monitoring)
   c. C (Circulation): Evaluate, document and treat signs/symptoms of shock according to the Shock CPG; initiate continuous ECG monitoring
   d. D (Disability): Assess and document GCS; assess pupillary size and reactivity
   e. E (Exposure/Environmental): Treat traumatic injuries according to the Trauma CPG and heat-related illness according to the Heat-Related Emergencies CPG
3. Positioning:
   a. If trauma is not suspected, position the patient supine or in the left lateral decubitus position, facing EMS Providers, in order to monitor and manage the airway
4. Perform and document a POC Glucose analysis and treat according to the Diabetic Emergencies CPG
5. Assess for general and toxidrome-specific sign and symptoms suggestive of drug overdose/poisoning:
   a. Signs/symptoms may vary according to route, concentration, dose, and duration of exposure:
      i. Routes include: ingestion, inhalation, injection or absorption (skin or mucous membranes)
   b. Check for needle marks, paraphernalia, bites, bottles or other items, and for possible trauma
6. Obtain SAMPLE history from patient/bystanders, focusing on prescription and OTC meds and illicit drugs:
   a. For prescription/OTC meds, identify drug name, time of ingestion, dose and quantity, if possible
   b. Collect and transport with patient all pill bottles or other containers present on-scene:
      i. Use extreme caution & PPE handling these items if opioid-related poisoning is suspected
7. Once advanced level care arrives on scene, give report and transfer care

Advanced Level

8. Maintain continuous SpO_2 and ECG monitoring until patient care has been transferred to hospital staff
9. Initiate continuous $PetCO_2$ monitoring if signs/symptoms of shock, hypoperfusion or respiratory distress
   Obtain and transmit a 12-Lead ECG, preferably before initiating transport, if cardiac dysrhythmias are present:
   a. Treat hemodynamically significant dysrhythmias according to the relevant CPG
10. Consider establishing IV/IO access at TKO rate or with a saline lock
    a. Treat shock/hypotension with fluid resuscitation according to the Shock CPG
11. Initiate transport, with continuous monitoring and frequent reassessment
12. Follow agency SOPs for patient decontamination prior to E.D. transport
    a. Follow agency SOPs for personnel, equipment and apparatus decontamination
13. For patient care considerations not covered under standing orders, especially for poisoning/overdose due to drug(s) not covered under this CPG, consult BioTel and the North Texas Poison Control Center

Specific Considerations for Representative Drug Classes (confirmed or suspected):

1. Benzodiazepine:
   a. Support ABCs with supplemental oxygen and assisted ventilation/advanced airway
   b. Consider IV/IO fluid challenge (normal saline 20 mL/kg, up to 1 L maximum)
2. Beta-Blocker (BB) or Calcium Channel Blocker (CCB):
   a. Treat according to the Bradycardia CPG and Shock CPG
3. Carbon monoxide (CO):
   a. Exercise extreme caution and use PPE to avoid accidental exposure
   b. Treat according to the Carbon Monoxide Exposure CPG
4. Caustic (acid or alkali) oral ingestion:
   a. Evaluate for and treat airway compromise according to Airway Management (Adult/Pediatric) CPG
   b. Consider dilution with water or milk ONLY in the first few minutes immediately after ingestion:
      i. Up to 240 mL (adults) or 120 mL (pediatric patient less than 14 years of age)
      ii. Do NOT force fluids if: patient refuses to drink, or cannot swallow or protect his/her airway
      iii. Do NOT administer if: respiratory distress, AMS, abdominal pain, or nausea/vomiting
5. Cyanide (CN):
   a. Exercise extreme caution and use PPE to avoid accidental exposure
   b. Treat according to the Cyanide Exposure CPG
6. Narcotic/opioid (including fentanyl, carfentanil, and related substances):
   a. Exercise extreme caution and use PPE to avoid accidental exposure even to minute quantities of confirmed or suspected fentanyl-related substances (e.g. white powders, pills or unknown liquids)
   b. Treat according to the Altered Mental Status CPG
7. Organophosphate or carbamate pesticide, nerve agent:
   a. Exercise extreme caution and use PPE to avoid accidental exposure
   b. Treat according to the Toxic Chemical Exposure CPG
      i. If atropine/2-PAM Duodote® autoinjectors are unavailable, administer atropine IV/IO
8. Psychiatric and other medications causing symptomatic dystonia or extrapyramidal symptoms:
   a. Administer diphenhydramine according to the Allergic Reaction CPG
9. Selective Serotonin Reuptake Inhibitor Antidepressant (SSRI):
   a. Consider early advanced airway management
   b. Treat dysrhythmias according to the relevant CPG
   c. Treat hyperthermia according to the Heat-Related Emergencies CPG
   d. Treat hypotension according to the Shock CPG
   e. Treat seizures according to the Seizure CPG
10. Stimulant:
    a. Request additional EMS and Law Enforcement resources, as needed
    b. Treat according to the Behavioral Emergencies/Excited Delirium CPG
11. Tricyclic Antidepressant (TCA):
    a. Treat according to the Bradycardia CPG and Shock CPG; and
    b. Administer sodium bicarbonate 1 mEq/kg IV/IO; and
    c. Administer 20 mL/kg normal saline IV/IO (1 L maximum per bolus)
    d. Treat seizures according to the Seizure CPG