

Assessment and Emergency Care of Toxicologic Emergencies

Scene Size-up

Scene Safety

Ensure scene safety and safe access to the patient. Be aware of potential violence or the possibility of a crime scene and call for law enforcement. Standard precautions should include a minimum of gloves. Determine the number of patients and assess the need for additional resources. Pay close attention to the patient and the surroundings; patients with an altered mental status may unexpectedly become violent. Look for evidence of environmental toxins. Be observant for possible weapons. Identify yourself clearly, and remain calm and confident.

Mechanism of Injury (MOI)/ Nature of Illness (NOI)

Determine the NOI. Observe the scene and look for indicators of a toxic exposure (empty containers, multiple patients, strange odors, etc). Consider that a toxin may be the reason for the person's behavior because certain toxins can produce an altered mental status.

Primary Assessment

Form a General Impression

Your assessment of a toxicologic emergency patient should begin at the door. Are there empty medication, alcohol, or chemical containers around the patient? Observe the work of breathing and circulation. Determine the level of consciousness using the AVPU scale. Identify immediate threats to life. Determine priority of care based on the NOI. If the patient has a poor general impression, call for ALS assistance. A rapid scan will help you identify and manage life threats.

Airway and Breathing

Ensure the airway is open, clear, and self-maintained. Unresponsive patients will need the airway opened and maintained using a modified jaw-thrust maneuver if cervical spine injury is suspected; use the head tilt-chin lift maneuver in nontrauma patients. A patient with an altered level of consciousness may need emergency airway management; consider inserting a properly sized oropharyngeal or nasopharyngeal airway. Evaluate the patient's ventilatory status for rate and depth of breathing, respiratory effort, and tidal volume. Administer high-flow oxygen at 15 L/min, providing ventilatory support as needed. Hypoxia may cause changes in the patient's mental state. If vomiting is a possibility, place the patient in the recovery position if no spinal injury is suspected.

Circulation

Observe skin color, temperature, and condition; look for life-threatening bleeding and treat accordingly. Evaluate the distal pulse rate, quality (strength), and rhythm. Tachycardia may be an indicator of a toxic exposure, but it may also indicate respiratory distress or shock. Bradycardia may also occur as a result of a toxic exposure.

Transport Decision

If the patient has an airway or breathing problem, signs and symptoms of bleeding, or other life threats, manage them immediately and consider rapid transport, performing the secondary assessment en route to the hospital. Depending on the NOI, patients should be decontaminated prior to transport to decrease the dose the patient received and to limit the spread of contamination.

NOTE: The order of the steps in this section differs depending on whether the patient is conscious or unconscious. The following order is for a conscious patient. For an unconscious patient, perform a primary assessment, a full-body scan, obtain vital signs, and obtain the past medical history from a family member, bystander, or emergency medical identification device.

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History Taking

Investigate Chief Complaint

Investigate the chief complaint. Monitor the patient for changes in mental status. Ask OPQRST and SAMPLE questions. SAMPLE can also be obtained from family, bystanders, and medical alert tags. If the toxicologic event was intentional, treat the patient as a psychiatric emergency as well. When the toxic substance is not immediately evident, determine if the patient is exhibiting signs and/or symptoms consistent with a toxidrome; the patient's signs and symptoms often can provide clues to the nature of the toxic exposure.

Secondary Assessment

Physical Examinations

The physical examination should focus on the area of the body involved with the poisoning or the route of exposure and the particular drug or chemical the patient was exposed to. An examination of all body systems may help to identify systemic problems.

Vital Signs

Obtain baseline vital signs as soon as practical. Vital signs should include blood pressure by auscultation, pulse rate and quality, respiration rate and quality, pupils, and skin assessment for perfusion. Note the patient's level of consciousness. Use pulse oximetry, if available, to assess the patient's perfusion status. Vital signs are important; preexisting medical conditions can be worsened by a toxic exposure.

Reassessment

Interventions

Repeat the primary assessment, vital signs, and assessment of the chief complaint. Assist breathing as required, administering high-flow oxygen. Be prepared for sudden deterioration as the toxin spreads within the body. If the patient has consumed a harmful or lethal dose of a poisonous substance, you must repeat the assessment of vital signs every 5 minutes, or constantly if needed. If the patient is in stable condition and there are no life threats, reassess every 15 minutes.

Communication and Documentation

Contact medical assessment of the or a poison center for information as permitted by local protocol. Contact medical control/receiving hospital with a radio report; many hospitals require additional personnel and a separate treatment area. Include a thorough description of the NOI and the position the patient was found in. Include treatments performed and patient response. Be sure to document the patient's distress, answers to your questions, attitude toward emergency care providers, and any changes in patient status and the time. Follow local protocols. Document the reasoning for your treatment and the patient's response. If restraints were necessary, thoroughly document your rationale and the patient condition/status while being restrained.

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NOTE: Although the following steps are widely accepted, be sure to consult and follow your local protocols. Take appropriate standard precautions when treating all patients.

Toxicologic Emergencies

General Management of Toxicologic Emergencies

1. Rescues from a toxic environment should only be performed by trained rescuers wearing appropriate personal protective equipment.
2. Establish and maintain a patent airway. Provide high-flow oxygen. Monitor for vomiting and protect against aspiration.
3. Obtain SAMPLE history and vital signs. Ascertain what toxin may be involved.
4. Request ALS when necessary.
5. Take all containers, bottles, and labels of poisons to the receiving hospital.
6. For patients who have taken alcohol, opioids, sedative-hypnotics, or abused inhalants, monitor the level of consciousness and airway patency because these drugs produce central nervous system depression and respiratory depression.
7. For abused inhalants, patients are prone to seizures and ventricular fibrillation.
8. For stimulants or anticholinergics, it is critical to monitor patients for hypertension and/or other cardiovascular effects.
9. For cholinergic agents, decontamination is a necessity. Monitor the patient for excessive respiratory secretions and seizures.
10. For patients who have plant poisoning, contact the regional poison center for assistance in identifying the plant.
11. For patients who have food poisoning, transport the food suspected to be responsible for the poisoning.

Administer activated charcoal for poisonous ingestions according to local protocol. Follow these steps:

1. Do not give activated charcoal if the patient exhibits an altered mental status, has ingested a substance for which charcoal is contraindicated, or is unable to swallow.
2. Obtain an order from medical direction or follow protocol.
3. Shake the activated charcoal container well.
4. Place the activated charcoal suspension in a covered cup with a straw and ask the patient to drink. The dose for infants and children is 12.5 to 25 g and the dose for adults is 25 to 50 g.