

EMS Immediate Response - CBRN®

Poison Center – 1-800-222-1222

CBRN= Chemical, Biological, Radiological, Nuclear

Nuclear → **DECON with Water First!**

	Symptoms	Exposure	First Response
Radiological Nuclear	Nausea, vomiting, severe burns, fatigue	Amount of time exposed, internal vs. external exposure, and distance from the radiation is important	Protect Caregivers Remove clothing Decontamination using water

Biological → **Don Mask and Gloves at a Minimum**

Agents	Symptoms	Exposure	First Response
Smallpox	Fever, hard pox lesions, body aches, malaise, vomiting, and headache HIGHLY INFECTIOUS!	Inhalation Person contact	Protect caregivers Use impermeable surgical gown/gloves
Botulism	Weakness, dizziness, dry mouth, blurred vision, progressive weakness, of muscles leading to paralysis and abrupt respiratory failure	Ingestion Inhalation Open wounds No person-to-person transmission	Use oral/nasal masks <i>*Preferable to use HEPA-filter masks, especially for Plague, Smallpox, and Viral Hemorrhagic Fevers (i.e. Ebola)</i>
Tularemia	No person-to-person transmission Fever, headache, malaise, cough, weight loss		If necessary, use face shields or goggles
Anthrax	No person-to-person transmission Contact with spores may cause illness Fever & fatigue, then abrupt onset of resp. problems (cough, dyspnea). Toxic shock and death within 2-3 days	Ingestion Inhalation Cutaneous	Isolate potentially infectious people as soon as possible If dermal exposure: Clothing should be removed by protected personnel
Plague	Malaise, fever, tender lymph nodes, skin lesions, chills, headache, bloody sputum, pneumonia, circulatory failure and death HIGHLY INFECTIOUS!	Inhalation	Wash skin with soap and water Give supportive care ALL AGENTS Refer to OMHCC CBRN Quick Reference Guide for Treatment Recommendations

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Chemical → **Symptoms are often immediate** **Protect SELF First with PPE!**

Agents	Symptoms	Exposure	First Response
Irritant Gases Phosgene Ammonia Chlorine	Ammonia/Chlorine: Immediate irritation of eyes, skin, resp. tract All Agents: Delayed pulmonary edema	Skin Contact Eyes Inhalation	First Response ALL Agents Listed Protect Caregivers Use Level A or B personal protective equipment Use positive air pressure respirators Separate clean from contaminated people as soon as possible If dermal exposure is suspected: Contaminated clothing should be removed by protected personnel Wash skin thoroughly with soap and water to deactivate contaminant Irritant Gases & Cyanide Maintain airway and administer oxygen immediately, in addition to above recommendations
Cyanide	Headache, dizziness, lethargy, tachycardia, hypotension, respiratory depression , coma, death can occur in < 5 min.	Cyanokit® (Hydroxocobalamin) Adult 5 grams IV over 15 min Repeat 5 grams if needed Child 70 mg/kg IV ; 15 min (dosing not FDA approved) Recon vial with 200 ml NS. <i>Administer in separate IV</i> Causes red skin and urine	
Blister Agents Lewisite Nitrogen Sulfur Mustard	Eye pain, gritty eyes, reddened skin, large fluid-filled blisters, respiratory damage Sulfur mustard symptoms delayed 2-24 hours	Skin Contact Eyes Inhalation Ingestion	
Nerve Agents Tabun Soman Sarin Organo-phosphate & carbamate insecticides VX Novichok	Symptom onset may be delayed up to 18 hours after dermal exposure Mild Constricted pupils, runny nose/nasal secretions, mild shortness of breath, mild chest tightness, sweating, lacrimation Moderate Wheezing, profuse airway secretions, respiratory distress, muscle weakness, vomiting, diarrhea, bradycardia Severe Unconsciousness, seizures , flaccid paralysis, cyanosis, resp. failure, apnea	Mark I Kit / DuoDote <i>Mark I Kit consists of 2 IM auto-injectors; DuoDote & ATNAA are single IM auto-injectors</i> Both Contain: atropine 2 mg + pralidoxime 600 mg Symptoms = Adult Dose Mild: 1 Kit or DuoDote (ATNAA) Moderate: 2 Kits or DuoDotes Severe: 3 Kits or DuoDotes AtroPEN (atropine) <i>0.5 mg autoinjector for IM</i> -1 Pens (0.5 mg) 6-18 kg (13-40 lbs) -2 Pens (1 mg) 19-28 kg (41-62 lbs) -3 Pens (1.5 mg) 29-39 kg (63-84 lbs) -4 Pens (2 mg) >38 kg (>84 lbs) For Seizures Diazepam (Valium) Adult 5 to 10 mg IV/IM Child 0.2 to 0.5 mg/kg IV/IM <i>May repeat q 5-10 min</i> OR Midazolam (Seizalam) Adult 5 to 10 mg IV/IM Child 0.2 mg/kg IV/IM <i>May repeat q 5-15 min</i>	Nerve Agents For Seizures (cont.) <i>Alternative to Diazepam and Midazolam</i> Lorazepam (Ativan) Adult 2 to 4 mg IV/IM Child 0.05-0.1 mg/kg IV/IM <i>May repeat q 5-10 min</i> Check with Nebraskapoisson.com for the most recent version or call Nebraska Regional Poison Center at 402-955-5555 DO NOT REVISE Copyrighted