

CBRNE Mass Casualty Decontamination for Hospitals Quick Reference Guide

Agent	Properties	Signs and Symptoms	Symptom Onset	Antidote/ Treatment	Hospital Decon	Min. Level of Protection for First Receivers
Biological						
Bacterial, Viral		Flu-like symptoms, possible rash depending on agent	Delayed (days to weeks)	Anthrax and plague treated with antibiotics, vaccine given for smallpox and yellow fever	No	Protection during in-hospital treatment of patients with contagious diseases such as smallpox and plague: (Universal precautions - gown, N95 mask, gloves) anthrax: (Standard precautions – gloves, gown) since it is not transmissible by airborne route
Toxins		Botulinum: Muscle weakness/paralysis; Ricin: symptoms vary by system affected); <i>Ingestion</i> : Nausea, vomiting, abdominal pain; <i>Inhalation</i> : Shortness of breath (SOB), chest pain, fever, cough	Hours to days	Botulinum antitoxin limited availability	Yes if exposure is recent	Level “C” during decontamination
Chemical						
Blister agents (Mustard agent, Lewisite)	Liquid at room temperature; Colorless and almost odorless	Mustard: Skin blisters, eye/throat irritation; Lewisite: Blisters & arsenic poisoning	Mustard: blisters appear after several hours; Lewisite: immediate blisters	Mustard agent: No antidote; Lewisite: British Anti-Lewisite (BAL), helps to remove arsenic, does not affect blisters	Yes	Level “C” during decontamination
Choking agents (e.g., ammonia, chlorine, phosgene)	Liquid at room temperature; Colorless Odor: New-mown hay	SOB, chest pain, burning eyes, throat, etc. Coughing, retching, asphyxia	Immediate to several hours	Symptomatic treatment	Yes	Level “C” during decontamination
Blood agents (e.g., cyanide)	Liquid at room temperature; Colorless Odor: Like bitter almonds	SOB, dizziness, headache, rapid breathing, seizures	Immediate	Cyanide treatment kit	Yes	Level “C” during decontamination
Nerve agents (e.g., Tabun, Sarin, Soman, VX)	Colorless liquids except VX, which is pale amber	SLUDGE (salivation, lacrimation, urination, defecation, GI disturbance, emesis), SOB, paralysis, death by suffocation	Immediate	Mark I nerve agent antidote kit	Yes	Level “C” during decontamination

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Radiological						
Dirty bomb will leave radioactive dust on victims		Alpha, Beta, Gamma: Dose dependent; usually asymptomatic at doses <100 REM	Delayed depending on dose received	Some antidotes may remove heavy metals from the body depending on radioisotope (DTPA, SSKI, Prussian Blue, etc.)	Yes, if contaminated with dust or debris	Level "C" during decontamination; N95 mask, gown, gloves, foot covers during in-hospital treatment of non-decontaminated victim with life threatening injuries
Pure exposure to radiation source will NOT cause victims to become radioactive		Radioactive elements are also commonly toxic heavy metals	Delayed depending on dose received	Some antidotes may remove heavy metals from the body depending on radioisotope (DTPA, SSKI, Prussian Blue, etc.)	No decon necessary for pure exposure to radiation	Level "D" (normal work clothing) if victim exposed to radiation but not contaminated
Explosive						
		Trauma from overpressure, winds, shrapnel, burns	Immediate	Specific to traumatic injury. Look for hidden blast lung & abdomen.	Only if suspected CBRN agent added to bomb	Level "C" during decontamination if CBRN component added to explosive device