CHEMICAL TERRORISM
GENERAL GUIDANCE*
Pocket Guide

Diagnosis: Be Alert to the Following
• Groups of individuals becoming ill around the same time
• Any sudden increase in illness in previously healthy individuals
• Any sudden increase in the following non-specific syndromes:
  ▪ Sudden unexplained weakness, collapse, apnea, or convulsions in previously healthy individuals
  ▪ Dimmed or blurred vision
  ▪ Hypersecretion syndromes (such as drooling, tearing, and diarrhea)
  ▪ Inhalation syndromes (eye, nose, throat, chest irritation; shortness of breath)
  ▪ Burn-like skin syndromes (redness, blistering, itching, sloughing)
• Unusual temporal or geographic clustering of illness (for example, patients who attended the same public event, live in the same part of town, etc.)

Understanding Exposure
• Exposure may occur from any state of matter. Route of exposure may delay onset of symptoms
• Chemical effects are dependent on:
  ▪ volatility and amount of a chemical
  ▪ water solubility (higher solubility leads to more mucosal and less deep lung deposition and toxicity)
  ▪ increased fat solubility and smaller molecular size increase skin absorption

Confirmation and Sources of Assistance and Support
• Contact your local poison control center
• Contact your local industrial hygienist or safety officer
• Department of Justice (DOJ) Domestic Preparedness National Response Hotline (800-424-8802)
• If you need further help in clinical diagnosis or management, call DOJ Chembio Help Line (800-368-6498)
• Review US Army Chemical Casualty Care handbook (go to http://ccc.apgea.army.mil or internally at vaww.oqp.med.va.gov/cpg/BCR/BCR_base.htm)
• CDC/ATSDR Hotline (770-488-7100)

Decontamination Considerations
• Chemical warfare agents always require removal of clothing and decontamination of the patient, usually with soap and water. Avoid bleach
• Treating contaminated patients in the emergency department before decontamination may contaminate the facility
• Assume patients are contaminated unless otherwise documented
• Time is of the essence

Institutional Reporting
• If reasonable suspicion of chemical attack, contact your hospital leadership (Chief of Staff, Hospital Director, etc)
• Immediately discuss hospital emergency planning implications

Public Health Reporting
• Contact your local public health office (city, county, or state)
• If needed, contact the FBI (for location of nearest office, see http://www.fbi.gov/contact/fo/fo.htm)

*The information in this card is not meant to be complete but to be a quick guide; please consult other references and expert opinion, and check drug dosages, particularly for pregnancy and children.
<table>
<thead>
<tr>
<th>Agents</th>
<th>Symptom Onset</th>
<th>Symptoms</th>
<th>Signs</th>
<th>Clinical Diagnostic Tests</th>
<th>Deconamination</th>
<th>Exposure route and treatment</th>
<th>Differential diagnostic considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nerve agents</td>
<td>Vapor: seconds</td>
<td>Moderate exposure: Muscle cramping, runny nose, difficulty breathing, eye pain, dimming of vision, sweating, diarrhea</td>
<td>Pinpoint pupils (miosis): often absent without conjunctival exposure to vapor. Excessive lacrimation Pulmonary secretions Wheezing Muscle twitching &amp; rippling under the skin (fasciculations) Sweating Hypersalivation Diarrhea Seizures, apnea</td>
<td>Red blood cell or serum cholinesterase (whole blood) Treatment based on signs and symptoms; Use lab tests only for later confirmation Collect urine for later confirmation and dose estimation</td>
<td>Rapid disrobing, Water wash with soap and shampoo</td>
<td>Inhalation &amp; dermal absorption Atropine 2 – 6 mg IV or IM 2-PAMCI 600–1800 mg injection or 1.0 g infusion over 20-30 minutes Additional atropine 2 mg q 3-5 min to decreased secretions. One additional 2-PAMCI 600mg injection or 1.0 g infusion over 20-30 minutes at 1 hr if necessary Diazepam or lorazepam to prevent seizures in patients with severe enough exposure to require 6mg of atropine at one time Ventilation support</td>
<td>Pesticide poisoning from organophosphorous agents and carbamates cause virtually identical syndromes</td>
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<tr>
<td>Cyanide</td>
<td>Seconds to minutes</td>
<td>Moderate exposure: Dizziness, nausea, headache, eye irritation</td>
<td>Moderate exposure: non-specific findings, gasping, flushing, (typically not cyanosis) High exposure: convulsions, cessation of respiration</td>
<td>Cyanide (blood) or thiocyanate (blood or urine) levels in lab; increased arteriovenous oxygen difference Treatment based on signs and symptoms; Use lab tests only for later confirmation</td>
<td>Clothing removal</td>
<td>Inhalation &amp; dermal absorption Oxygen (face mask) Amyl nitrite Sodium nitrite (300mg IV) and sodium thiosulfate (12.5g IV)</td>
<td>Similar CNS illness results from: Carbon monoxide (from gas or diesel engine exhaust fumes in closed spaces) H2S (sewer, waste, industrial sources) Sulfur mustard symptoms of pain usually delayed; Lewisite symptoms usually immediate</td>
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<td>Blister Agents (Sulfur mustard)</td>
<td>2 – 48 hours</td>
<td>Burning, itching, or red skin Mucosal irritation (prominent tearing, and burning and redness of eyes) Shortness of breath Nausea and vomiting</td>
<td>Skin erythema Blistering Conjunctivitis and lid swelling Upper airways sloughing Pulmonary edema Marrow suppression with lymphocytopenia</td>
<td>Often smell of garlic, horseradish, and mustard on body Oily droplets on skin from ambient sources No specific diagnostic tests</td>
<td>Clothing removal Large amounts of water</td>
<td>Inhalation, dermal absorption, &amp; oral ingestion Thermal burn type treatment Supportive care For Lewisite and Lewisite/ Mustard mixtures: British Anti-Lewisite (BAL or dimercaprol)</td>
<td>Diffuse skin exposure with irritants, such as caustics, sodium hydroxides, ammonia, etc., may cause similar syndromes. Sodium hydroxide (NaOH) from trucking accidents</td>
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<td>Pulmonary agents (phosgene etc.)</td>
<td>1 – 24 (rarely up to 72) hours</td>
<td>Shortness of breath Chest tightness Wheezing Mucosal and dermal irritation and redness</td>
<td>Pulmonary (non-cardiogenic) edema with some mucosal irritation (signs after symptoms)</td>
<td>No tests available but source assessment may help identify exposure characteristics (majority of trucking incidents generating exposures to humans have labels on vehicle)</td>
<td>None usually needed</td>
<td>Inhalation Supportive care Specific treatment depends on agents Consider steroids</td>
<td>Inhalation exposures are the single most common form of industrial agent exposure (eg: phosgene, chlorine) Mucosal irritation, airways reactions, and deep lung effects depend on the specific agent</td>
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<td>Ricin (castor bean toxin)</td>
<td>18 – 24 hours</td>
<td>Ingestion: Nausea, diarrhea, vomiting, fever, abdominal pain Inhalation: chest tightness, coughing, weakness, nausea, fever</td>
<td>Clusters of acute lung or GI injury; circulatory collapse and shock</td>
<td>ELISA (from commercial laboratories) using respiratory secretions, serum, and direct tissue</td>
<td>Clothing removal Water rinse</td>
<td>Inhalation &amp; Ingestion Supportive care For ingestion: charcoal lavage</td>
<td>Tularemia, plague, and Q fever may cause similar syndromes, as may CW agents such as staphylococcal enterotoxin B and phosgene</td>
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<td>T-2 mycotoxin</td>
<td>2 – 4 hours</td>
<td>Dermal &amp; mucosal irritation; blistering, necrosis Blurred vision, eye irritation Nausea, vomiting, and diarrhea Ataxia Coughing and dyspnea</td>
<td>Mucosal erythema and hemorrhage Red skin, blistering Tearing, salivation Pulmonary edema Seizures and coma</td>
<td>ELISA from commercial laboratories Gas chromatography/Mass spectroscopy in specialized laboratories</td>
<td>Clothing removal Water rinse</td>
<td>Inhalation &amp; dermal contact Supportive care For ingestion: charcoal lavage Possibly high dose steroids</td>
<td>Pulmonary toxins (O3, NO2, phosgene, NH3) may cause similar syndromes though with less mucosal irritation.</td>
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