<table>
<thead>
<tr>
<th>Name of Agent</th>
<th>Method of Exposure</th>
<th>Rate of Action &amp; Odor</th>
<th>Symptoms</th>
<th>Treatment Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfur Mustard</td>
<td>Skin contact or</td>
<td>Delayed (2-24 hours)</td>
<td>No immediate symptoms. Eye pain, gritty eyes, reddened skin, large fluid-filled blisters.</td>
<td>+Protect caregivers; +Decontaminate using water; +Topical BAL may be used for Lewisite; +Prevention of infection using antibiotics; +Application of lotions or ointments to soothe blisters.</td>
</tr>
<tr>
<td></td>
<td>Inhalation</td>
<td>-almond, garlic, mustard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lewisite</td>
<td>Skin contact or</td>
<td>Rapid</td>
<td>Immediate pain, eye and lung burning, bee-sting blisters, grayish skin.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inhalation</td>
<td>-garlic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nitrogen Mustard</td>
<td>Skin contact or</td>
<td>Rapid</td>
<td>Eye pain, gritty eyes, reddened skin, large fluid-filled blisters, respiratory damage; smells like almonds</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inhalation</td>
<td>-almond, garlic, mustard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phosgene</td>
<td>Skin contact or</td>
<td>Rapid and Delayed</td>
<td>Extremely irritating to eyes, skin, and upper respiratory system. Can cause delayed onset of pulmonary edema</td>
<td>Administer oxygen, IV fluids, &amp; bronchodilators</td>
</tr>
<tr>
<td>Ammonia</td>
<td>Inhalation</td>
<td>-pungent odor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chlorine</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tabun</td>
<td>Skin contact or</td>
<td>Very rapid for ingestion</td>
<td>Mild: miosis, rhinorrhea, shortness of breath, chest tightness, sweating &amp; fasciculations at site of liquid contact</td>
<td>+Protect caregivers; +Decontaminate; +Ventilation; +Antidotes; +Supportive Therapy; +Medical treatment on back.</td>
</tr>
<tr>
<td>Soman</td>
<td>Inhalation</td>
<td>Delayed up to 18 hours with dermal</td>
<td>Moderate: wheezing, profuse airway secretions, respiratory distress, muscle weakness, vomiting, diarrhea</td>
<td></td>
</tr>
<tr>
<td>Sarin VX</td>
<td>Skin contact or</td>
<td>Tabun: fruity</td>
<td>Severe: unconsciousness, seizures, flaccid paralysis, cyanosis, apnea</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inhalation</td>
<td>-Soman: camphor, fruity</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Sarin VX: odorless</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Pesticides: garlic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organophosphates (Pesticides)</td>
<td>Skin contact, Inhalation, or Ingestion</td>
<td>*Rapid (24-36 hours) *Illness length may be prolonged</td>
<td>+Treatable with antitoxin if administered early</td>
<td></td>
</tr>
<tr>
<td>Cyanide</td>
<td>Ingestion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inhalation</td>
<td>-almonds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variola virus</td>
<td>Inhalation</td>
<td>Incubation 12 -17 days</td>
<td>Febrile prodrome (fever &gt;102, headache, backache, chills, vomiting, abdominal pain), first lesions appear in oral mucosa, face, forearm.</td>
<td>+Protect &amp; vaccinate caregivers &amp; patients</td>
</tr>
<tr>
<td>(Smallpox)</td>
<td>Person contact</td>
<td>Pox lesions form 2-3 days</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Pox are deep, firm/hard, round</td>
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<td></td>
</tr>
<tr>
<td>Viral Hemorrhagic Fevers (Ebola, Marburg)</td>
<td>Inhalation</td>
<td>-Rate of reaction is variable</td>
<td>Fever, myalgias, flushing, petechiae, bleeding, hypotension, shock, etc.</td>
<td>+Protect caregivers; +Intensive supportive care +Vaccine for yellow fever</td>
</tr>
<tr>
<td></td>
<td>Person contact</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Botulinum toxin (Botulism)</td>
<td>Ingestion</td>
<td>*Rapid (24-36 hours)</td>
<td>Weakness, dizziness, dry mouth, blurred vision, progressive weakness of muscles - to paralysis and abrupt respiratory failure.</td>
<td>+Treatable with antitoxin if administered early</td>
</tr>
<tr>
<td></td>
<td>Inhalation</td>
<td>*Illness length may be prolonged</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Open Wounds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ricin Castor Bean Toxin</td>
<td>Inhalation, Ingestion, Injection</td>
<td>18 – 24 hours</td>
<td>Inhalation-coughing, chest tightness, weakness, fever</td>
<td>+Supportive care +Ingestion-charcoal, lavage</td>
</tr>
<tr>
<td>Francisella tularensis (Tularemia)</td>
<td>Inhalation</td>
<td>Incubation 1-10 days</td>
<td>Fever, headache, malaise, general discomfort, irritating cough, weight loss. 30% mortality rate</td>
<td>+Medical treatment on back</td>
</tr>
<tr>
<td></td>
<td>Open Wounds</td>
<td>Incubation is 1-6 days</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bacillus anthracis (Anthrax)</td>
<td>Inhalation</td>
<td>Toxic shock and death within 2-3 days</td>
<td>Inhalation: Fever &amp; fatigue, then a slight improvement followed by an abrupt onset of severe respiratory problems (cough, mediastinitis, dyspnea). Ingestion: Abdominal distress with/out bloody vomiting or diarrhea</td>
<td>+Treatable if antibiotics are administered within 24 hours of onset of inhalation symptoms. +Aggressive treatment for suspected inhalation.</td>
</tr>
<tr>
<td></td>
<td>Ingestion Cutaneous</td>
<td>Reactivation of spores up to 60 days</td>
<td>Cutaneous: Presents with a painless black, necrotic, eschar with redness and edema</td>
<td></td>
</tr>
<tr>
<td>Yersinia pestis (Plague)</td>
<td>Inhalation</td>
<td>Incubation is 2-10 days</td>
<td>Malaise, high fever, tender lymph nodes, skin lesions, chills, headaches, bloody sputum, pneumonia, circulatory failure and death. HIGHLY INFECTIONOUS!</td>
<td>+Medical treatment on back</td>
</tr>
<tr>
<td>Brucella suis (Brucellosis)</td>
<td>Inhalation</td>
<td>Incubation is 5-60 days</td>
<td>Flu-like symptoms including fever and chills, headache, appetite loss, mental depression, extreme fatigue, aching joints, sweating, and possibly GI symptoms.</td>
<td>+Contact the Poison Control Center for the latest information on treatment.</td>
</tr>
<tr>
<td>Nuclear Radiation</td>
<td>Amount of time exposed, internal versus external, and distance from the irradiation</td>
<td>Slow progression</td>
<td>Nausea, vomiting, severe burns, fatigue, reduced white blood cells</td>
<td>+Protect Caregivers +External decon using water +Medical treatment on back</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Thallium: garlic</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Therapeutic Disclaimer**

Questions regarding alternative drugs or dosing recommendations for infants, pediatrics or other specialized populations should be referred to the Nebraska Regional Poison Center 402-955-5555 or 800-222-1222 for the most current guidelines.

**Cyanide**

**Cyanokit® (Hydroxocobalamin)**

*DO NOT administer through same IV line as Cyanokit*

- **Adult**
  - 5 grams IV over 15 minutes. Repeat 5 grams if no improvement

- **Child**
  - 70 mg/kg IV (pediatric dosing not FDA approved)

Reconstitute each vial with 200 ml of NS. Administer through separate IV.

Cyanide causes red skin and urine.

**Sodium Thiocyanate IV can be used as adjunctive**

DO NOT administer through same IV line as Cyanokit.

**Atropine Sulfate**

- **Adult**
  - 2 mg IV or IM q2-5 min, until resolution of muscarinic signs (bronchospasms & XS secretions)

- **Child**
  - 0.02 mg/kg (minimum of 0.1 mg) until resolution of muscarinic signs (bronchospasms & XS secretions)

AtroPEN (atropine) 0.5 mg Auto-Injector

- **Adult**
  - 30mcg/kg (up to 2 cm) IV follow with infusion: 8 to 10mg/kg/hr

- **Child**
  - 30mcg/kg (up to 2 cm) IV follow with infusion: 10 to 20mg/kg/hr

**Duration of treatment is 60 hours**

**Pralidoxime Chloride (2-PAM or Prontosil)**

- **Adult**
  - 300mg/kg (up to 2 cm) IV follow with infusion: 8 to 10mg/kg/hr

**Duration of treatment is 60 hours**

**Mark I Kit/DuoDote (Auto-Injectors)**

Mark I Kit consists of 2 auto-injectors; DuoDote is a single auto-injector

Both Contain: Atropine 2 mg & Pralidoxime 600 mg

**Diazepam (Valium)**

- **Adult**
  - 5 to 10 mg IV May repeat q 5-10 min as needed for seizures

- **Child**
  - 0.2 to 0.5 mg/kg IV May repeat q 5 to 10 min

**Lorazepam (Ativan)** alternative to Diazepam

- **Adult**
  - 2 to 4 mg IM May repeat q 5 to 10 min as needed for seizures

- **Child**
  - 0.05 to 0.15 mg/kg IM May repeat q 5 to 10 min

**Duration of treatment is until no evidence of radiation exist**

**Exposure to Iodine radiation**

**Oral Potassium Iodide (KI or SSKI)**

- **Adult** or adult sized adolescents
  - 130 mg PO or 0.13 mL of SSKI PO
  - 0-1 month 16mg; >1 month - 3 mg 2/3 mg
  - 3 years to 18 years 85mg

Immediate dosing before or after exposure can block up to 90%

3-4 hours post-exposure dosing can provide only a 50% block

**CAUTION USE with SHELLFISH ALLERGY or PREGNANCY**

**Exposure to Cesium or Thallium radiation**

**Oral Prussian Blue (ferrocyanoferrate II)**

Available from REAC/TS (866) 576-1005 or Huytin 201-975-7040

Adult

- Initially start 3g PO 3 times a day; reduce dose to 1g/m orally

- 3 times a day Cesium counts <1gY or Thallium counts <1mg/24hr

**Child** (2 to 12 years) - Initially start 1g/m orally 3 times a day

- *Capsules may be opened and sprinkled on food for ease of administration*

**Exposure to Plutonium, Americium, or Curium radiation**

**DTPA (pentetate zinc trisodium) injection** - FAS

- Adult
  - 1 gm IV over 3-5 minutes x 1

- *(<12 years) 14mg/kg IV over 3 to 5 min not to exceed 1g

- Child
  - Zn-DTPA (pentetate zinc trisodium) injection - Maintenance
  - Adult
  - 1 gm IV over 3 to 5 minutes, refer to PI for duration

- *(<12 years) 14mg/kg IV over 3 to 5 min not to exceed 1g

- *Refer to package insert for suggested supps & duration of treatment*

**Hemopoietic Syndrome**

*Filgrastim (Neupogen)* - 5mg/kg SQ daily up to 2 weeks

**Live Smallpox Vaccine**

Available from the CDC (770) 488-7100

- Before vaccine dose draw diagnostic lab for toxin sub type ABE and test for equine serum reaction

**Dose**: Administer 1 vial slowly I.V. in a 1:10 dilution with 0.9% normal saline (may also give a dose of 1 vial I.M.)

**Adverse effects include anaphylaxis and serum sickness**

**Duration of prophylaxis & treatment is 60 days**

**Doxycline (Vibramycin)**

- **Adult** 100 mg PO every 12 hours
  - Use IV for Life-threatening illness

- **Child**
  - If < 45 kg: 2.2 mg/kg PO or IV every 12 hours
  - If ≥ 45 kg: 100 mg PO or IV every 12 hours

**Ciprofloxacin (Cipro®)**

- **Adult** 400mg IV every 12 hours for life-threatening illness

- **Child**
  - 500 mg PO every 12 hours
  - > 20 kg: 2.2 mg/kg PO or IV every 12 hours

**Levofloxacin (Levaquin®)**

- **Adult** 500mg oral or IV q 24 h

- **Child**
  - <50kg 8mg/kg up to 250mg oral or IV q 12 h

**Amoxicillin (Amoxicillin®) (If strain susceptible)**

- **Adult**
  - 500 mg PO every 8 hours

- **Child**
  - If ≤ 20 kg: 26.7 mg/kg PO or IV; > 20 kg: 500 mg every 8 hours

**Plague Duration of treatment is 10 days**

**Tularemia Duration of treatment is 14 days**

**Contraindicated in patients with a PEANUT ALLERGY**

**Inhalation/Contamination**

**Contraindicated in patients with a PEANUT ALLERGY**

**Oral Levofloxacin (Levaquin®)**

- 500 mg PO or IV every 12 hours

**Ciprofloxacin (Cipro®)**

- **Adult**
  - 400mg IV every 12 hours for life-threatening illness

- **Child**
  - 500 mg PO every 12 hours

**Levofloxacin (Levaquin®)**

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  - 500 mg PO every 12 hours

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