

## Biological / Chemical Terrorism Agents

Agent	Incubation/ Onset	Transmission Route	Clinical Effects	Need Decon?	Treatment	Vaccinate?	Prophylaxis?	Morbidity
Anthrax Pulm	1-6 days (up to 60)	Inhalation of Spores	Initially ILI: fever, malaise, fatigue non-productive cough, chest discomfort LATE: Severe respiratory distress, stridor, cyanosis. Septicemia and hemorrhagic meningitis.	Only if acutely exposed	CIP OR Doxy. AND Clinda or Vanco AND Rifampin +/- Steroids. All Intravenous	<u>Patient</u> : yes <u>Exposed</u> to release: possibly Other Contact: NO Health Care: NO	Only those exposed to actual release. Doxy or Cipro orally 28-60 days.	Treated early: LOW  After onset of respiratory distress: HIGH (near 100%)
Anthrax Cut.	1-12 days (up to 60)	Spores enter through non- intact skin	Begins as a papule then becomes a fluid filled vesicle. The vesicle dries and forms a dark black scab (eschar)	Only if acutely exposed	Cipro or Doxy for 7-10 days. Can be given PO. With systemic sx or risk of inhalation, treat as above.	<u>Patient</u> : yes <u>Exposed</u> to release: possibly Other Contact: NO Health Care: NO	Only those exposed to actual release. Doxy or Cipro orally 28-60 days.	Untreated: up to 25%  Treated < 1%
Smallpox	7-17 days	Respiratory droplets and drainage from pustules.	Prodrome 2-4 days of ILI. Rash begins as papules which become deep vesicles then scab. Mostly face and extremities. DOES involve palms/soles.	Cleanse lesions and soiled material.	Supportive  Gancyclovir may help. Other antivirals unknown.	Vaccinate patient and all contacts or potential contacts. Vaccinate health care workers at facility.	See vaccination	10-30% likely. Higher in (rare) hemorrhagic form up to 90%.
Plague Pneum.	2-3 days	Inhaled droplets Can follow bubonic.	Begins as ILI. Rapid progression over 24 hours to severe pneumonia, hemoptysis, then respiratory distress and failure.	Only if acutely exposed	IV doxycycline or gentamycin	NOT effective on aerosolized form of disease.	Doxy or Tet. Strict respiratory and droplet precautions. Isolate pt. 72 hrs.	Untreated: 100%  Treated: ?
Plague Bubonic	2-10 days	Can be natural (endemic in Western US) Skin or inhaled.	High fever; painful, massively swollen lymph nodes (buboes)	Only if acutely exposed	IV doxycycline or gentamycin	Does not treat patient. May give to health care or family.	Isolate pt. 48 hrs until lesions stop draining. Treat contacts as above	Untreated: 7-30%. May be higher Treated: < 2%
Tularemia	2-5 days (Range 1-14)	Inhaled for BW but also skin contact, GI or animal bites.	Begins as ILI. Progresses over several days to pneumonia with dyspnea and hilar adenopathy.	Only if acutely exposed	IV Streptomycin, gentamycin or ciprofloxacin	None		< 5%
Botulinum Toxin	24-72 hrs	Inhaled	Symmetric, descending flaccid paralysis. Eyes, bulbar muscles then respiratory and skeletal.	Possibly if toxin present	Supportive. Antitoxin may lessen progress. No antibiotics.	Antitoxin from CDC or Public Health	None: toxin not infection	Uncertain. Long recovery.
VHF's (Ebola, etc.)	2-10 days	Blood or secretions. Possibly aerosolized.	ILI prodrome. Day 3 Bleeding. Day 5 desquamation. Rapid progression to delirium, multi-system organ failure.	Linen, lesions.	Supportive care. Dialysis may help. Need transfusions and FFP.	None	None. Strict droplet precautions. Linen, etc. highly infectious.	HIGH
Ricin	Ingestion 18- 24 hrs  Inhalation 8-36 hrs	Ingestion  Inhalation	Acute GI: Nausea/vomiting, diarrhea, fever, abd. pain  Acute Pulm: Chest tightness, cough, wheeze, nausea, fever	Soap/water: Personnel Equipment, Supplies	Inhalation & Ingestion: No antidote, Supportive care Charcoal lavage for ingestion	None	None	HIGH
Cyanides	Seconds - Minutes	Inhalation, Ingestion, Cutaneous absorption	Moderate exposure: hypotension, dizziness, nausea/vomiting, headache, eye irritation, "pink" skin color, hyperventilation  High exposure: LOC, seizures, cardio-pulm arrest	Soap/water: Personnel, Equipment, Supplies	100% oxygen, intubation, Amyl nitrite via ambu, 1 ampule (0.2cc) q 5 min. Sodium nitrite 300mg IV over 5- 10 min. Additional sodium nitrite based on hgb level and pt. wt.	None	See treatment	HIGH without immediate antidotes
Vesicants/Bl ister agents (mustard, lewisite, phosgene)	Lewisite: minutes  Mustard: Hrs. - Days	Inhalation, Cutaneous absorption	Skin erythema, blistering, itchy red skin, mucosal irritation, tearing/burning/red eyes, nausea/vomiting, SOB, pulm. edema, metabolic failure	Soap/water: Personnel, Equipment, Supplies	Mustards – NO antidote Lewisite – British Anti-Lewisite (BAL or Dimercaprol) IM Thermal burn therapy, supportive care, eye care	None	See treatment	HIGH without early decon. for Mustard HIGH without early antidote for Lewisite