

Selected Biowarfare Agent Characteristics

Disease	Symptoms	Person-to-Person transmission	Infective Dose (Aerosol)	Incubation Period	Duration of Illness	Lethality	Persistence of Organism	Treatment
Inhalation anthrax	Fever, malaise, cough, respiratory distress	No	8,000-50,000 spores	1-6 days	3-5 days (usually fatal if untreated)	High	spores remain viable in soil for > 40 yrs	Ciprofloxacin Doxycycline
Pneumonic Plague	High fever, chills, headache, productive cough – watery then bloody	High	<100 organisms	2-3 days	1-6 days (usually fatal)	High unless treated within 12-24 hours	For up to 1 year in soil; 270 days in live tissue	Streptomycin Gentamycin or Chloramphenicol
Botulism	Dry throat, blurred vision, slurred speech, difficulty swallowing, progressive descending symmetrical paralysis	No	0.001 µg/kg is LD ₅₀ for type A	12-36 hours (range up to several days)	Death in 24-72 hours; lasts months if not lethal	High without respiratory support	For weeks in non-moving water and food	Antitoxin Supportive care
Smallpox	Non-specific flu-like prodrome (malaise, fever, headache) then synchronously evolving maculopapular rash progressing to vesicles then pustules	High	Assumed low (10-100 organisms)	12-14 days (range 7-17 days)	4 weeks	High to moderate	Very stable	?Cidofovir
Brucellosis	Irregular fever, chills, headache, malaise, cough and chest pain in 20%, osteoarticular disease	No	10–100 organisms	5-60 days (average 1-2 months)	Weeks to months	5% untreated	6 weeks in dust and 10 weeks in soil or water	Doxycycline + Rifampin
Tularemia	Fever, headache, malaise, weight loss, nonproductive cough	No	10-50 organisms	3-6 days (range 1-21 days)	2 weeks	Moderate if untreated	For months in moist soil or other media	Streptomycin Gentamycin
Q Fever	Fever, chills, headache, diaphoresis, malaise, fatigue, anorexia, and weight loss	Rare	1-10 organisms	7 days (range 2-14 days)	Weeks	Very low	Able to withstand heat and drying; persists in environment for weeks to months	Tetracycline Doxycycline
Viral Encephalitides	Fever, rigors, severe headache, photophobia, malaise, nausea, vomiting, diarrhea may follow	Low	10-100 organisms	1-5 days	Days to weeks	Variable	Relatively unstable in the environment	Supportive care
Viral Hemorrhagic Fevers	Fever, malaise, myalgia, prostration; vascular permeability may present as conjunctival injection and petechial hemorrhage and progress to mucous membrane hemorrhage and shock	Moderate	1-10 organisms	4-21 days	Days to weeks	5 – 90 % case fatality rate depending on virus	Relatively unstable in the environment	Ribavirin Supportive care
Staph Enterotoxin B	Sudden onset fever, chills, headache, myalgias, non-productive cough	No	30 ng/person incapacitation	3-12 hours after inhalation	Days	<1%	Resistant to freezing	Supportive care
Ricin	Depends on route of exposure. Aerosol route: fever, chest tightness, cough, hypothermia. Oral route: gastrointestinal hemorrhage	No	3-5µg/kg is LD ₅₀	18-24 hours	Days. Death within 10-12 days for ingestion	High	Stable	Inhalation: supportive GI: lavage, charcoal, cathartics
T-2 Mycotoxins	Skin pain, redness, necrosis, sloughing of epidermis, wheezing, chest pain, hemoptysis	No	Moderate	Minutes to hours	Variable. Death may occur in min., hrs. or days	Moderate	For years at room temperature	Supportive care

LD₅₀ = Lethal Dose µg/kg

Ricin and botulinum are lethal at all levels.

? = may be effective

Source: Adapted from Medical Management of Biological Casualties – USAMRIID 1998