



## SUMMARY OF BIOLOGICAL WARFARE AGENTS

Agent	Clinical Syndrome	Incubation Period	Diagnostic Samples	Diagnostic Assay	Patient Isolation Precautions	Treatment	Post-Exposure Prophylaxis (PEP)	Comments
<b>Anthrax</b>	Inhalational - febrile prodrome, resp distress, bacteremia, meningitis. CXR - wide mediastinum (Cutaneous ulcer; GI syndrome – less likely)	1-5 days (up to 42 days described)	Sputum, blood, CSF; stool, ulcer swab or biopsy (BSL-2)	Gram stain, culture, PCR	Standard (no person to person transmission).	Cipro 400 mg IV q 8-12 or doxycycline 100 mg IV q 12; plus 1 or 2 additional abx (e.g., rifampin, vancomycin, penicillin, chloramphenicol, clindamycin, imipenem, clarithromycin); switch to po to complete 60 days (1 agent)	Cipro 500 BID or doxycycline 100 mg BID for 60 days, plus 3-dose regimen of anthrax vaccine (available through CDC, IND protocol)	If organism susceptible to penicillin, PEP for pregnant women and children can be changed to oral amoxicillin
<b>Brucellosis</b>	Febrile prodrome, osteoarticular disease, genitourinary infection, hepatitis; endocarditis and CNS involvement rarely	5-60 days, occasionally months	Serum; blood, bone marrow (BSL-2)	Serology; culture	Standard precautions; contact isolation if draining lesions	Doxycycline 200 mg/d po plus rifampin 600-900 mg/d po x 6wks	Doxycycline and rifampin for 3 wks if inadvertently inoculated	Trimethoprim-sulfamethoxazole can be substituted for rifampin, although 30% relapse rate
<b>Plague</b>	Pneumonic – fulminant pneumonia, septicemia; bubonic less likely	2-3 days	Blood, sputum, lymph node aspirate; serum (BSL-2/3)	Gram, Wright, Giemsa or FA stain; culture; Serology	Pneumonic – droplet precautions until patient treated for 3 days	Streptomycin 1gIM twice daily x 10 days, or gentamicin, doxycycline, ciprofloxacin, chloramphenicol	Doxycycline 100 mg po q 12 h x 7 days; ciprofloxacin 500 mg po BID x 7 days	Vaccine not protective against pneumonic infection
<b>Q fever</b>	Fever, systemic symptoms, pneumonia, hepatosplenomegaly	10-40 days	Serum (BSL-2)	Serology	Standard precautions	Tetracycline 500 mg po QID x 5-7 days; doxycycline 100 mg po BID x 5-7 days	Doxycycline or tetracycline: start 8-12 d postexposure x 5 days	Vaccine available - investigational
<b>Tularemia</b>	Ulceroglandular; typhoidal (septicemic) – fever, weight loss, pneumonia	2-10 days	Serum; Blood, sputum, ulcer swab, lymph node aspirate (BSL-2/3)	Serology; Gram stain, culture (PCR and DFA if available)	Standard precautions	Streptomycin 1g IM twice daily, or gentamicin 5 mg/kg IM or IV daily or ciprofloxacin x 10 days; OR doxycycline or chloramphenicol x 14 days	Doxycycline 100 mg po q 12hrs x 14 days; Ciprofloxacin 599 mg po twice daily X 14 days	Transfer culture to BSL-3 after initial isolation of organism
<b>Smallpox</b>	Fever, systemic toxicity, vesicular rash with centrifugal distribution, lesions synchronous in stage of development	7-17 days	Pharyngeal swab, vesicular fluid, scab material (BSL-4)	ELISA, PCR, viral isolation	Airborne precautions	None (cidofovir effective in vitro)	Vaccine within 4 days of exposure, VIG (0.6 ml/kg IM within 3 days) if vaccine contraindicated	Preexposure and post-exposure vaccination recommended if > 3 yrs since last vaccination
<b>Viral encephalitides</b>	VEE: fever, headache, malaise, photophobia, vomiting; WEE/EEE: febrile prodrome, somnolence, delirium	VEE 2-6 days; WEE/EEE 7-14 days	Serum; CSF (BSL-2)	Serology; Viral isolation	Standard precautions	Supportive	None	Vaccines available, although poorly immunogenic
<b>Viral hemorrhagic fevers</b>	Fever, myalgia, hypotension, hemorrhagic features	4-21 days	Serum; blood, formalin-fixed tissue biopsy (BSL-4)	Serology; Viral isolation, PCR, immunohistological detection of antigen in tissue	Contact precautions (consider additional precautions if massive hemorrhage)	Supportive; ribavirin for CCHF/arenaviruses; antibody passive for AHF, BHF, Lassa, CCHF	None	Aggressive management of hypotension, secondary infections
<b>Botulinum</b>	Ocular symptoms, skeletal muscle paralysis – symmetric, descending; respiratory failure	1-5 days	Serum, stool (BSL-2), gastric aspirate, vomitus	Mouse bioassay for toxin detection; culture	Standard precautions	DOD heptavalent antitoxin serotypes A-G; CDC trivalent equine antitoxin serotypes A, B, E	None	Skin testing for hypersensitivity before equine antitoxin administration
<b>Staphylococcal enterotoxin B</b>	Fever, headache, cough, respiratory distress, GI symptoms	1-6 hours	Nasal swab, serum, urine (BSL-2)	Antigen detection (toxin) – ELISA; serology	Standard precautions	Supportive	None	Vomiting and diarrhea may occur if toxin is swallowed

**Important contact information:**

Philadelphia Department of Public Health.....215-685-6740; After-hours on-call: 215-686-1776  
Philadelphia Police/Fire/Emergency.....911  
Poison Control Center.....800-222-1222  
Pennsylvania Department of Health.....1-877-PA-HEALTH

Bucks County Department of Health .....215-345-3318; After-hours on-call: 215-348-6600  
Chester County Department of Health.....610-344-6225; After-hours on-call: same  
Delaware County State Health Center.....610-447-3250; After-hours on-call: 610-378-4352  
Montgomery County State Health Center.....610-278-5117; After-hours on-call: 610-275-1222  
Camden County NJ Department of Health.....856-374-6000; After-hours on-call: 856-783-1333  
New Jersey Department of Health.....609-588-3121; After-hours: 609-392-2020

Clues to a possible bioterrorist attack: single cases of disease due to uncommon, non-indigenous agents in patients with no history suggesting an explanation for illness; clusters of patients with similar syndrome with unusual characteristics (e.g., unusual age distribution) or unusually high morbidity and mortality; unexplained increase in the incidence of a common syndrome above seasonally-expected levels (e.g., increase in influenza-like illness during summer), or with negative tests for influenza and other respiratory viruses). Contact DDC at 215-685-6740(215-686-1776 if after hours) to report suspected cases, access diagnostic testing or obtain more information.