Department of Public Health
CITY OF PHILADELPHIA

SUMMARY OF BIOLOGICAL WARFARE AGENTS

Agent	Clinical Syndrome	Incubation Period	Diagnostic Samples	Diagnostic Assay	Patient Isolation Precautions	Treatment	Post-Exposure Prophylaxis (PEP)	Comments
Anthrax	Inhalational - febrile prodrome, respiratory 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
Brucellosis	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
Plague	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
Q fever	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 post-exposure x 5 days	Vaccine available - investigational
Tularemia	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 500 mg po twice daily X 14 days	Transfer culture to BSL-3 after initial isolation of organism
Smallpox	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	Pre-exposure and post-exposure vaccination recommended if > 3 yrs since last vaccination
Viral encephalitides	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
Viral hemorrhagic fevers	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
Botulinum	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
Staphylococcal enterotoxin 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: 215-686-4514
Philadelphia Police/Fire/Emergency…………..911
Poison Control Center…………………………..800-222-1222
Pennsylvania Department of Health…………..1-877-PA-HEALTH; After-hours on-call: 717-787-3350

Bucks County Department of Health …………………215-345-3318; After-hours on-call: 267-718-1939
Chester County Department of Health………………..610-344-6225; After-hours on-call: 610-733-4919
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……………………..609-826-5964; 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 Division of Disease Control at 215-685-6740 (215-686-4514 if after hours) to report suspected cases, access diagnostic testing or obtain more information.

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