

BIOLOGICAL ATTACK

DISEASE/ AGENT Incubation	SYMPTOMS	SIGNS	TRANSMISSION & PRECAUTIONS	TREATMENT (Adult dosage)	PROPHYLAXIS
				Note: these are for reference only, and are not in ALCO EMS protocol	
ANTHRAX 2-6 days Range: 1 day to 8 weeks (Bacillus anthracis) bacteria	Inhalation: Flu-like symptoms, nausea, vomiting, abdominal pain , fever, respiratory distress Cutaneous: initial itching papule; fever	Inhalation: fever, followed by < abrupt onset of respiratory failure, confusion widened mediastinum on chest X-ray (adenopathy), bloody pleural effusions, atypical pneumonia Cutaneous: initial itching papule, 1-3 cm painless ulcer, then necrotic center; lymphadenopathy	Aerosol inhalation No person-to-person transmission Standard precautions	Mechanical ventilation Antibiotic therapy (inhalation) Ciprofloxacin 400 mg IV q 8-12 hr OR Doxycycline 200 mg IV initial, then 100 mg IV q 8-12 hr PLUS Rifampin 10 mg/kg/d po (up to 600 mg day) OR Clindamycin 1200-2400 mg/day IM or IV	Ciprofloxacin 500 mg or Doxycycline 100 mg po q 12 hr ~ 8 weeks Amoxicillin in pregnancy and children (if susceptible) Vaccine if available
BOTULISM 12-72 hours Range: 2 hrs – 8 days toxin caused by the bacterium (Clostridium botulinum)	Difficulty swallowing or speaking (symmetrical cranial neuropathies) Symmetric descending weakness Respiratory dysfunction No sensory dysfunction No fever	Dilated or un-reactive pupils Drooping eyelids (ptosis) Double vision (diplopia) Slurred speech (dysarthria) Descending flaccid paralysis Intact mental state	Aerosol inhalation Food ingestion No person-to-person transmission Standard precautions	Mechanical ventilation Parenteral nutrition Trivalent botulinum antitoxin available from State Health Departments and CDC	Experimental vaccine has been used in laboratory workers
PLAGUE 1-3 days by inhalation (Yersinia pestis) bacteria	Sudden onset of fever, chills, headache, myalgia Pneumonic: cough, chest pain, dyspnea, fever Bubonic: painful lymph nodes	Pneumonic: Hemoptysis; ✓ radiographic pneumonia -- ✓ patchy, cavities, confluent consolidation, hemoptysis, cyanosis Bubonic: typically painful, enlarged lymph nodes in groin, axilla, and neck	Person-to-person transmission in pneumonic forms Droplet precautions until patient treated for at least three days	Streptomycin 30 mg/kg/ day in two divided doses x 14 days Gentamicin 3-5 mg/ kg/day IV/IM in q 8 hr dosage Tetracycline 2-4 g per day Ciprofloxacin 400 mg IV q 12 hr	Asymptomatic contacts or potentially exposed patients Doxycycline 100 mg po q 12 h Ciprofloxacin 500 mg po q 12 h Tetracycline 250 mg po q 6 hr Vaccine: not available
RICIN If inhaled, S/Sx within 4-8 hour Protein toxin produced from castor beans (Ricinus communis)	Fever, SOB, nausea, chest tightness	Sweating, pulmonary edema, cyanosis, hypotension, pulmonary and circulatory collapse	No person to person transmission Airborne precautions Standard precautions	Supportive care GI decontamination if ingested	Vaccine under development

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TULAREMIA 2-5 days Range: 1-21 days "pneumonic" (Francisella tularensis) bacteria	Fever, cough, chest tightness, pleuritic pain Hemoptysis rare	Community-acquired, atypical pneumonia Radiographic: bilateral patchy pneumonia with hilar adenopathy (pleural effusions like TB) Diffuse, varied skin rash May be rapidly fatal	Inhalation of agents No person-to-person transmission but laboratory personnel at risk Standard precautions	Streptomycin 30 mg/kg/ day IM divided bid for 14 days Gentamicin 3-5 mg/kg/ day IV in three equal divided doses x 10-14 days Ciprofloxacin possibly effective 400 mg IV q 12 hr (change to po after clinical improvement) x 10-14 day	Ciprofloxacin 500 mg po q 12 hr Doxycycline 100 mg po q 12 hr Tetracycline 250 mg po q 6 hr Experimental live vaccine
SMALLPOX 12-14 days Range: 7-17 days (Variola virus)	High fever and myalgia; itching; abdominal pain; delirium Rash on face, extremities, hands, feet; confused with chickenpox which has less uniform rash	Maculopapular then vesicular rash -- first on extremities (face, arms, palms, soles, oral mucosa) Rash with hard, firm pustules ("intra-dermal blisters") Rash is synchronous on various segments of the body	Person-to-person transmission Airborne precautions Negative pressure Clothing and surface decontamination	Supportive care Vaccinate care givers Experimental: cidofovir (useful in animal studies)	Vaccination (vaccine available from CDC)