

DIFFERENTIAL DIAGNOSIS CHART BY SYNDROME	
SYNDROME	DIFFERENTIAL DIAGNOSIS
ACUTE RESPIRATORY DISTRESS WITH FEVER	Dissecting aortic aneurysm, inhalational anthrax, pulmonary embolism Community acquired pneumonia, meningococemia, pneumonic plague, rickettsiosis Plague, Q fever, staphylococcal enterotoxin B, phosgene, tularemia Influenza, adenovirus, mycoplasma
ACUTE RASH WITH FEVER	Varicella, disseminated herpes zoster, vaccinia, monkeypox, cowpox Meningococemia, malaria, typhus, leptospirosis, borreliosis, thrombotic thrombocytopenia purpura (TTP), Hemolytic Uremic Syndrome (HUS)
NEUROLOGIC SYNDROMES	Guillain-Barre Syndrome, myasthenia gravis, midbrain stroke, tick paralysis, Mg++ intoxication, organophosphate, carbon monoxide, paralytic shellfish, or belladonna-like alkaloid poisoning, polio, Eaton-Lambert myasthenic syndrome Herpes simplex, post-infectious
INFLUENZA - LIKE ILLNESS	Numerous diseases, including Q fever
BLISTERING SYNDROMES	Mustard agents, staphylococcal enterotoxin B

INFECTION CONTROL PRECAUTIONS FOR BIOLOGICAL AGENTS				
AGENT	CONTAGION RISK	PRECAUTION CATEGORY *See other side for explanation of each precaution		
BACTERIA				
Anthrax	Very low (cutaneous)	Standard. Contact precautions for cutaneous and gastrointestinal anthrax if diarrhea is not contained.		
Brucellosis	Rare	Standard precautions.		
Plague (pneumonic)	Moderate to high	Standard. Contact precautions if draining buboes present. Droplet precautions until on appropriate therapy for 72 hours.		
Tularemia	Low	Standard. Contact precautions if lesions present.		
Q fever	Low	Standard precautions.		
VIRUSES				
Smallpox	Very High	Standard. Contact and Airborne precautions.		
Viral Hemorrhagic Fever	Very High	Standard. Contact, Droplet and Airborne precautions, especially in late stages.		
Viral Equine Encephalitis	None	Standard precautions.		
AGENT	CONTAGION RISK	PRECAUTION CATEGORY *See other side for explanation of each precaution	PERSONAL PROTECTIVE EQUIPMENT GL=Gloves GO=Gowns M=Mask	PRIVATE ROOM
Anthrax	Very low (cutaneous)	Standard. Contact precautions for cutaneous and gastrointestinal anthrax if diarrhea is not contained.	GL when entering the room GO if likely contact with patient, equipment or environment	No
Brucellosis	Rare	Standard precautions.	GL when entering the room GO if likely contact with patient, equipment or environment M Surgical Mask	No
Plague (pneumonic)	Moderate to high	Standard. Contact precautions if draining buboes present. Droplet precautions until on appropriate therapy for 72 hours.	GL when entering the room GO if likely contact with patient, equipment or environment M Surgical Mask	Yes Group patients if necessary
Tularemia	Low	Standard. Contact precautions if lesions present.	GL when entering the room GO if likely contact with patient, equipment or environment	No
Q fever	Low	Standard precautions.	GL, GO when entering the room M N-95 respirator	No
Smallpox	Very High	Standard. Contact and Airborne precautions.	GL, GO when entering the room M N-95 respirator	Yes Negative pressure
Viral Hemorrhagic Fever	Very High	Standard. Contact, Droplet and Airborne precautions, especially in late stages.	GL, GO when entering the room M N-95 respirator	Yes Negative pressure
Viral Equine Encephalitis	None	Standard precautions.		No

RECOGNIZING BIOTERRORISM-RELATED ILLNESSES

Healthcare providers should be alert to illness patterns and diagnostic clues that might signal an act of bioterrorism (BT). The following clinical and epidemiological clues are suggestive of a possible BT event:

- A rapidly increasing disease incidence
- An unusual increase in the number of people seeking care, especially with fever, respiratory, or gastrointestinal symptoms
- Any suspected or confirmed communicable disease that is not endemic in California (e.g., Anthrax, smallpox or viral hemorrhagic fever)
- Any unusual age distributions or clustering of disease (e.g., chickenpox or measles in adults)
- Simultaneous outbreaks in human and animal populations
- Any unusual temporal and/or geographic clustering of illness (e.g., persons who attended the same public event)

To report a case or outbreak of any disease contact the Communicable Disease Reporting System Hotline

Tel: 888-397-3993 • Fax: 888-397-3778

In the event of a possible bioterrorist incident, please call the Los Angeles County Department of Public Health Acute Communicable Disease Control Program immediately

During Business Hours (M-F, 8am - 5pm): (213) 240-7941
After Hours: (213) 974-1234

Ask to Speak with the Public Health Physician on Call.



Adapted by the County of San Diego Public Health Services from the New York State Department of Health's "Bioterrorism Rapid Response Card."

Revised 2007

BIOTERRORISM



A QUICK REFERENCE GUIDE FOR HEALTH CARE PROVIDERS OF LOS ANGELES COUNTY

INFECTION CONTROL PRECAUTIONS

Standard Precautions: Standard precautions apply to blood, all body fluids, secretions, non-intact skin, mucous membranes and excretions. Gloves and gowns should be used to prevent exposure to blood and other potentially infectious fluids. Mask and eye protection or face shield should be used during procedures or activities that are likely to generate splashes or sprays of blood body fluids secretions or excretions. Appropriate hand hygiene is always necessary.

Additional Precautions for the following:

Standard Precautions: Gloves, thorough hand hygiene, and eye/face protection to protect eyes, nose and mouth during activities that may generate splashing of blood or body fluids.

Droplet Precautions: Standard precautions plus: Private room or group patients with same infectious agent. Use a mask, eye protection if within 3 feet of a patient.

Contact Precautions: Standard precautions plus: Private room or group patients with same infectious agent. Use gloves when entering the room and a gown if clothing is likely to have contact with patient, environmental surfaces or patient care equipment.

Airborne Precautions: Standard precautions plus: Requires a negative pressure isolation room and appropriate respiratory protection such as the N95 respirator.

Reference: HICPAC (Hospital Infection Control Practices Advisory Committee), CDC: "Guideline for Isolation Precautions in Hospitals", American Journal of Infection Control, February 1996; 24(1): 24.

DECONTAMINATION GUIDELINES

In general, persons exposed to a biological agent need only to remove clothing, if heavily contaminated, and use shampoo, soap, and water on themselves (shower). The clothing should be bagged and laundered normally in hot water. No precautions for effluent water are needed. Dilute bleach solutions should NEVER be used on people, only environmental surfaces. Decisions regarding the need for decontamination should be made in consultation with Los Angeles County Public Health & CA State Health Department.

PERSONAL PROTECTION EQUIPMENT LEVELS

Biological: Standard PPE includes gloves, gowns, and mask. N-95, or higher quality mask is recommended for smallpox, and viral hemorrhagic fevers.

Chemical: Level A: Fully encapsulated suit with SCBA Level B: Non-encapsulated suit with SCBA Level C: Tyvek coveralls with a cartridge respirator. Standard personal protection for all unknown chemical agents is level A; Nerve Agents level A, Blister and Blood Agents level B.

Color Code:

- Bacterial Agents
- Viral Agents
- Biological Toxins
- Chemical Nerve Agents
- Chemical Vesicants
- Chemical Asphyxiants
- Chemical Pulmonary Agents
- Nuclear Agents

Agent	BIOLOGICAL AGENTS			
	Incubation	Symptoms	Signs	Transmission & Precautions
BACTERIA				
Anthrax (Inhaled and Cutaneous)	Inhalational: 1-7 days, possibly up to 60 days. Cutaneous: 1-7 days	Inhalation: Flu-like symptoms, nausea, 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 <i>No person-to-person transmission</i> Standard precautions
Brucellosis	Very variable 5-60 days	Fever (often intermittent) Headache, chills, heavy sweats, arthralgias.	Systemic illness, may become chronic with fever and weight loss. May have suppurative lesions. Bone/joint lesions common	Aerosol inhalation Standard precautions
Plague	1-7 days by inhalation	Sudden onset of fever, chills, headache, myalgia Pneumonic: cough, chest pain, dyspnea, fever Bubonic: painful lymph nodes	Pneumonic: Radiographic pneumonia –pneumonia, confluent consolidation hemoptysis, cyanosis. 6% may have associated meningitis. Bubonic: typically painful, enlarged lymph nodes in groin, axilla, or neck	<i>Person-to-person transmission in pneumonic forms</i> Droplet precautions until patient treated for at least 3 days
Tularemia "pneumonic"	3-6 days Range: 1-14 days	Fever, cough, chest tightness; pleuritic pain Hemoptysis rare	Community-acquired, atypical pneumonia Radiographic: bilateral patchy pneumonia with hilar adenopathy pleural effusions	Inhalation of agents <i>No person-to-person transmission but laboratory personnel at risk</i> Standard precautions
Q fever	10-16 days (Range: 3-30 days)	Fever, headache, chills, Heavy sweats, arthralgias.	Self-limited febrile illness lasting 2 days to 2 weeks. May present as pneumonia, or hepatitis	Aerosol inhalation Standard precautions

Agent	BIOLOGICAL AGENTS			
	Incubation	Symptoms	Signs	Transmission & Precautions
VIRUSES				
Smallpox	12-14 days Range: 7-17 days	High fever & myalgia; abdominal pain; delirium; Rash on face, extremities, hands, feet; confused with uniform rash	Maculopapular then vesicular rash – first on extremities (face, arms, palms, soles, oral mucosa) Rash with hard, firm pustules Rash is synchronous on various segments of the body	<i>Person-to-person transmission</i> Airborne precautions, negative pressure clothing, and surface decontamination
Viral Hemorrhagic Fevers (Ebola, Arenavirus, filovirus)	2-22 days	Fever with Malaise, myalgias, headache Vomiting, diarrhea may occur.	Mucous Membrane bleeding, Petechiae, thrombocytopenia and hypotension in patients w/o underlying malignancies.	Standard, contact, droplet and airborne precautions
Viral Equine Encephalitis (VEE) Venezuelan (VEE) Eastern (EEE) Western (WEE)	VEE 2-6 days EEE, WEE: 7-14 days	Non specific sudden onset of malaise, fever, rigors, Severe headache, Photophobia, Myalgias of legs and back.	Fever, headache stiff neck, nausea, vomiting, sore throat, diarrhea lasting several days often followed by prolonged period of weakness and lethargy. Central nervous system symptoms may develop.	Standard precautions
BIOLOGICAL TOXINS				
Botulism	12-72 hours Range: 2 hrs – 8 days	Difficulty swallowing or speaking (symmetrical cranial neuropathies), 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 <i>No person-to-person transmission</i> Standard precautions
Staphylococcal Enterotoxin B (SEB)	Sx begins 2-12 hrs	Fever/chills, headache, myalgia, cough	Inhalation: Dyspnea, pulmonary edema Ingestion: Nausea, vomiting, diarrhea	Aerosol & Ingestion Standard precautions
Ricin (Inhalational) castor bean toxin	Sx begin 4-24 hrs	Fever/chills, cough, malaise, dyspnea Late: Pulmonary edema and respiratory failure	Clusters of acute lung or GI injury; Circulatory collapse and shock	Standard precautions
Tricothecene mycotoxins (T2)	Sx begin min – 4 hrs	Necrosis and sloughing of affected tissues Late: Prostration, collapse, shock	Mucosal erythema and hemorrhage, red skin, blistering, learning, salivation	Aerosol Dermal, Eye, Ingestion Standard precautions

Agent (NATO Codes)	CHEMICAL & NUCLEAR AGENTS		
	Signs & Symptoms	Decontamination	Treatment
NERVE AGENTS			
Tabun (GA) Sarin (GB) Soman (GD) V Agents (VX)	Diaphoresis, defecation Urination Miosis Bronchospasm, bradycardia, Erems Lacrimation Salivation	Remove contaminated clothing. Flush with a soap & water solution for patiens. Flush with large amounts of a 5% bleach & water solution for objects.	Oxygen/respiratory support. Suction secretions. Rush to health care facility. Give: supportive care, atropine, valium, and pralidoxime For severe exposure and symptoms, give: 1) atropine - enough to control pulmonary secretions, 2) valium - enough to control agitation and seizures, and 3) pralidoxime - dosed by patient weight to reverse poisoning
VESICANTS (BLISTER AGENTS)			
Sulfur Mustard (H) Distilled Mustard (HD) Nitrogen Mustard (HN 1,3) Mustargen (HN 2) Lewistite (L)	Acts first as a cell irritant, then as a cell poison. Conjunctivitis, reddened skin, blisters, nasal irritation, inflammation of throat and lungs. Immediate pain with blisters later. Immediate pain with blisters later – necrosis equivalent to second and third degree burns.	Remove contaminated clothing. Flush with a soap & water solution for patiens. Flush with large amounts of a 5% bleach & water solution for objects.	Immediate decontamination. Supportive care Consider topical irrigation of British Anti-Lewisite (BAL) for lewisite exposure.
Phosgene Oxime (CX)	Immediate pain with blisters later – necrosis equivalent to second and third degree burns.	Remove contaminated clothing. Flush with a soap & water solution for patiens. Flush with large amounts of a 5% bleach & water solution for objects.	Supportive care Consider sodium thiosulfate and sodium nitrite in symptomatic cases.
CHEMICAL ASPHYXIANTS (BLOOD AGENTS)			
Hydrogen Cyanide (AC) Cyanogen Chloride (CK) Arsine (SA)	Skin color may be normal, blue, pale, or pink. Patients may appear to be gasping for air. Seizures prior to death. Effect is similar to asphyxiation, but is more sudden.	Remove contaminated clothing. Flush with a soap & water solution for patiens. Flush with large amounts of a 5% bleach & water solution for objects.	Supportive care Consider sodium thiosulfate and sodium nitrite in symptomatic cases.
PULMONARY AGENTS			
HCL Cl ₂ NF ₃	Shortness of breath, chest tightness, wheezing, mucosal and dermal irritation and redness. Pulmonary edema.	None usually needed	Supportive care Specific treatment depends on agent
NUCLEAR AGENTS (DIRTY BOMB)	Primary danger from blast. May have contamination from dust/fall-out. Monitor patients for clusters of unusual syndromes/radiation injuries	Go indoors: reduces dust exposure Remove clothing: for testing (store safely) Shower or wash with soap and water.	Treat blast injuries Be prepared for follow up of radiation injuries and syndromes. Refer patients to authorities.