SUBJECT: Bioterrorism & Infectious Disease Disaster Readiness Infection Control Plan

This plan has been developed to address Infection Prevention and Control issues that will arise during pandemics, bioterrorism events, and disasters. This plan is an essential component of Rancho Los Amigos National Rehabilitation Center's Emergency Preparedness Plan. As information related to recognizing, diagnosing, treating, and preventing infectious disease events is updated at the federal, state and local levels, this response plan will be modified accordingly.

Since Rancho does not have Emergency Room Service and negative pressure room, Rancho's main role in the biological event has been determined as a receiving hospital for decontaminated and stabilized patients. Rancho has very limited capacity in managing the influx of patients with communicable respiratory disease. A multidisciplinary team determined that under the current resources, Rancho can triage up to 30 patients for 3 days, provide care for 15 patients for 3-5 days, and store up to 7 days of backup supplies.

In the event of bioterrorism or suspected bioterrorism, staff will report the incident, through line of command as indicated in the Rancho Hospital Emergency Incident Command System Organizational Chart during regular business hours, to trigger the Emergency Command Post into operation. During off hours and weekends, staff will report the incident to the Hospital Charge Nurse via the hospital operator.

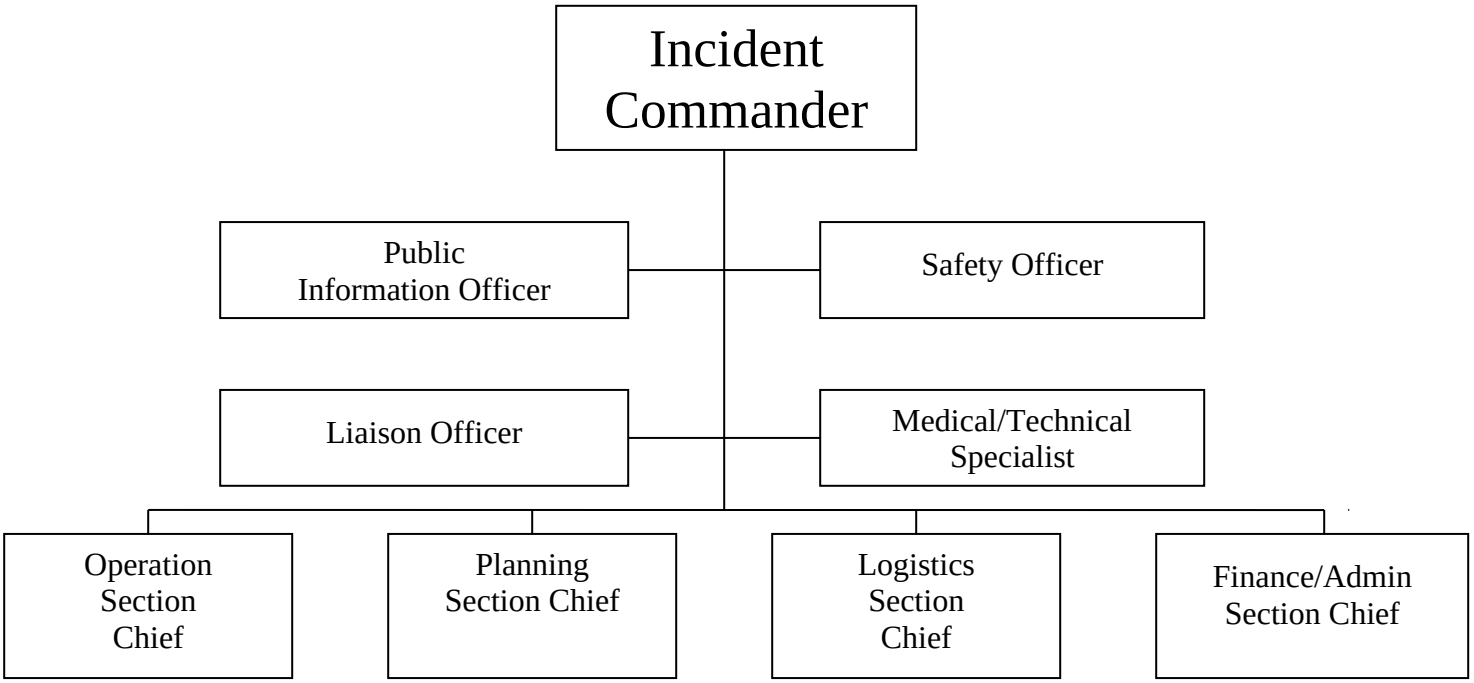
This plan includes reporting, isolation guidelines and disease specific recommendations for Category A agents: anthrax, botulism, plague, smallpox, tularemia, and hemorrhagic fever viruses (HFV); SARS, Ricin poisoning, a Category B potential bioterrorism agent.

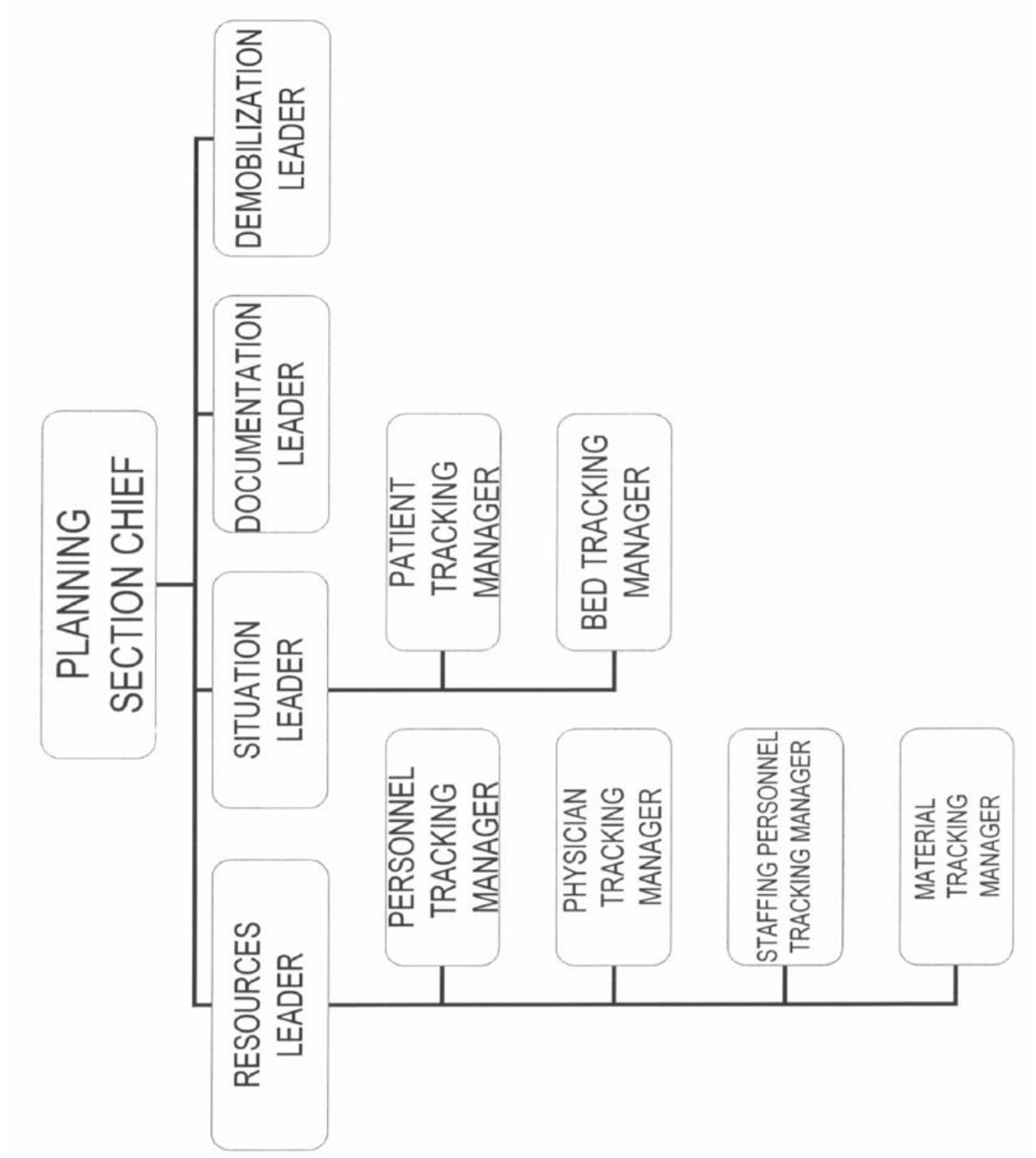
Reporting:

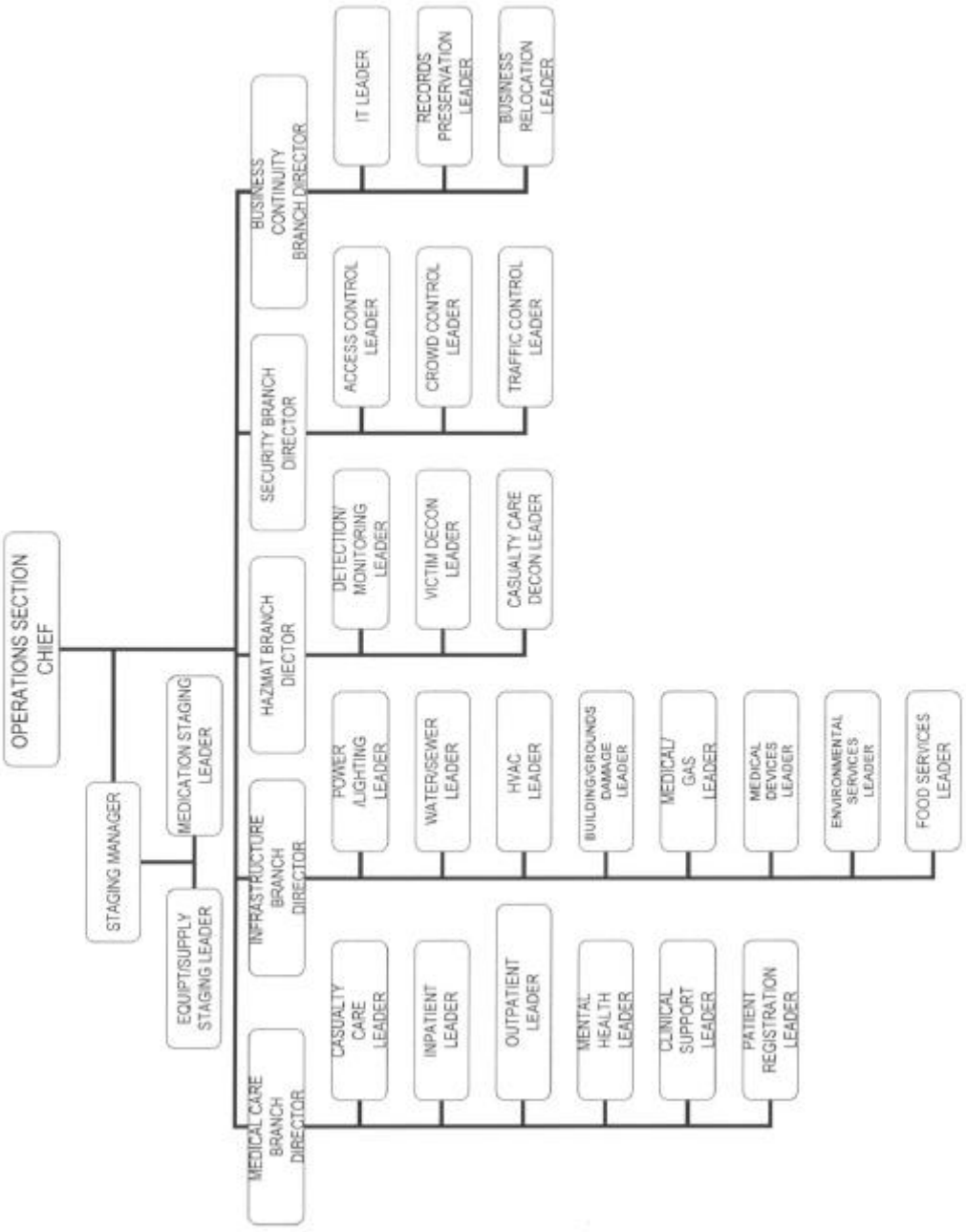
To report a case or outbreak of any disease
Contact the Communicable Disease
Reporting System Hotline

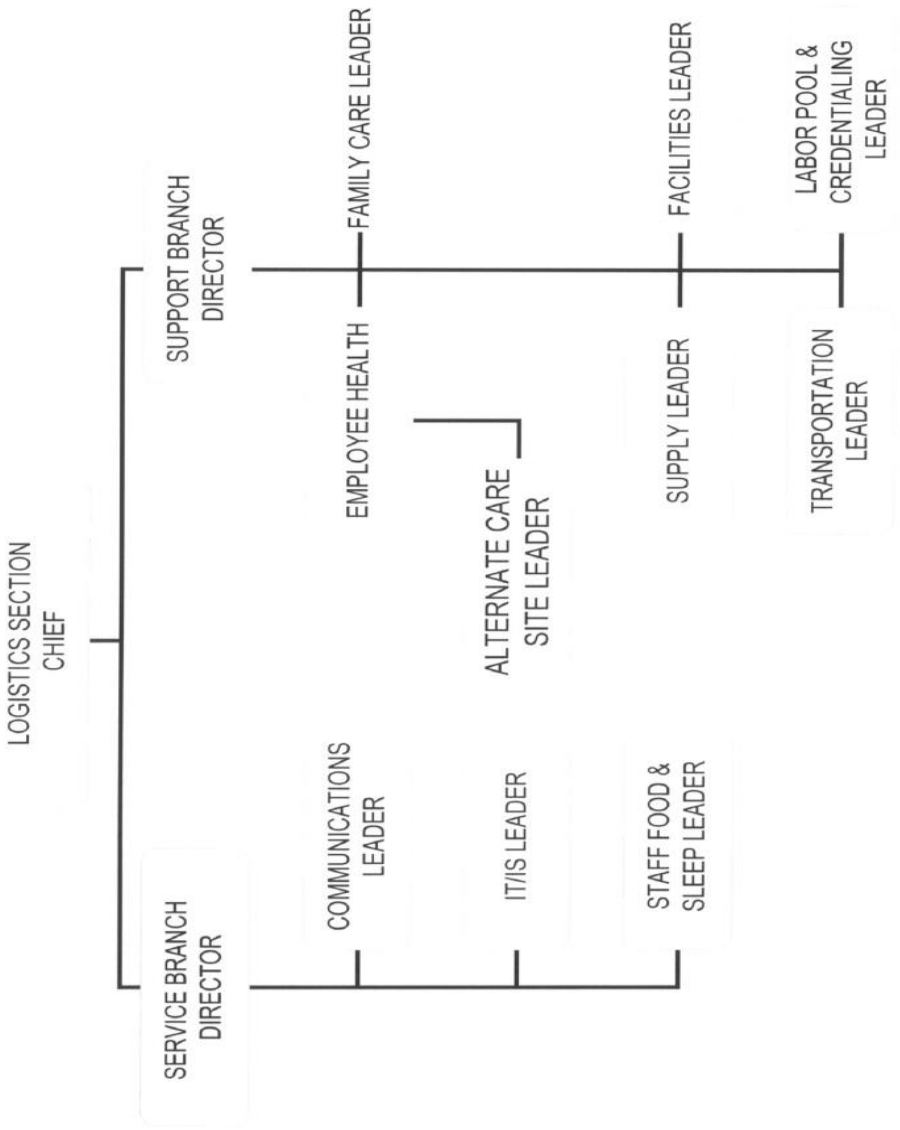
Tel: 888-397-3993 Fax: 888-397-3778
In the event of a possible bioterrorist incident, call the Los Angeles County Department of Health Services (LAC DHS) Acute Communicable Disease Control Program immediately.

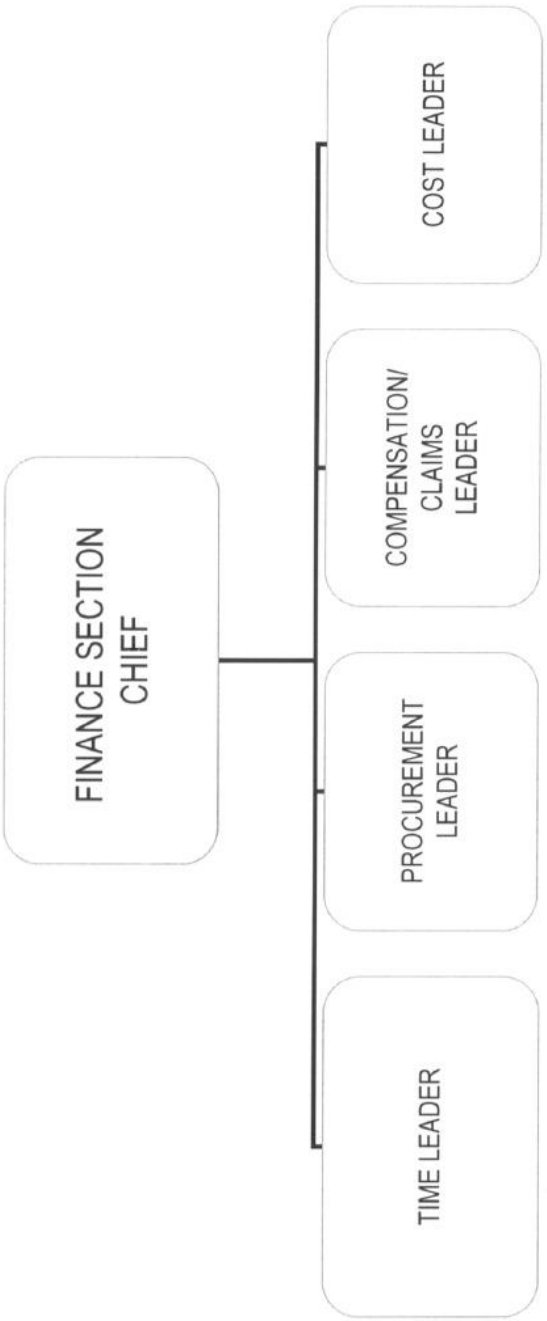
During Business Hours (M-F, 8am - 5pm): (213) 240-7941
After Hours: (213) 974-1234
Ask to Speak with the Public Health Physician on Call.


Incident Commander
Public Information Officer
Safety Officer
Liaison Officer
Medical/Technical Specialist
Operation Section Chief
Planning Section Chief
Logistics Section Chief
Finance/Admin Section Chief


PLANNING SECTION CHIEF
DEMOBILIZATION LEADER
DOCUMENTATION LEADER
SITUATION LEADER
RESOURCES LEADER
PATIENT TRACKING MANAGER
BED TRACKING MANAGER
PERSONNEL TRACKING MANAGER
PHYSICIAN TRACKING MANAGER
STAFFING PERSONNEL TRACKING MANAGER
MATERIAL TRACKING MANAGER


OPERATIONS SECTION CHIEF
STAGING MANAGER
MEDICATION STAGING LEADER
EQUIPT/SUPPLY STAGING LEADER
MEDICAL CARE BRANCH DIRECTOR
CASUALTY CARE LEADER
INPATIENT LEADER
OUTPATIENT LEADER
MENTAL HEALTH LEADER
CLINICAL SUPPORT LEADER
PATIENT REGISTRATION LEADER
INFRASTRUCTURE BRANCH DIRECTOR
POWER /LIGHTING LEADER
WATER/SEWER LEADER
HVAC LEADER
BUILDING/GROUNDS DAMAGE LEADER
MEDICAL/ GAS LEADER
MEDICAL DEVICES LEADER
ENVIRONMENTAL SERVICES LEADER
FOOD SERVICES LEADER
HAZMAT BRANCH DIECTOR
DETECTION/ MONITORING LEADER
VICTIM DECON LEADER
CASUALTY CARE DECON LEADER
SECURITY BRANCH DIRECTOR
ACCESS CONTROL LEADER
CROWD CONTROL LEADER
TRAFFIC CONTROL LEADER
BUSINESS CONTINUITY BRANCH DIRECTOR
IT LEADER
RECORDS PRESERVATION LEADER
BUSINESS RELOCATION LEADER


LOGISTICS SECTION CHIEF
SUPPORT BRANCH DIRECTOR
FAMILY CARE LEADER
EMPLOYEE HEALTH
ALTERNATE CARE SITE LEADER
FACILITIES LEADER
SUPPLY LEADER
LABOR POOL & CREDENTIALING LEADER
TRANSPORTATION LEADER
SERVICE BRANCH DIRECTOR
COMMUNICATIONS LEADER
IT/IS LEADER
STAFF FOOD & SLEEP LEADER


FINANCE SECTION CHIEF
COST LEADER
COMPENSATION/ CLAIMS LEADER
PROCUREMENT LEADER
TIME LEADER

PREPARATION and IDENTIFICATION

The hospital keeps abreast of infectious diseases that are occurring locally, nationally, or worldwide that could potentially affect our local community and result in an influx of patients with infectious conditions.

Triggers that identify a potential influx include:

- A local or state health department alert of a potential increase in admissions of infectious patients requiring isolation
- A rapidly increasing disease incidence within hours or days in a normally healthy population
- Staff report of an increase in patients with potentially infectious symptoms or conditions
- Infection Prevention and Control, Nursing Supervisors, or medical personnel awarded an unusual increase in the number of people seeking care, especially with fever, respiratory, or gastrointestinal complaints
- Clusters of patients arriving from a single locale
- Any patient presenting with a disease that is relatively uncommon and has bioterrorism potential
- Lower attack rates among people who have been indoors, especially in areas with filtered air or closed ventilation systems, compared with people who had been outside
- Large numbers of rapidly fatal cases

COMMUNICATION

If the potential for an influx of infectious patients is identified:

- The Chief Nursing Officer, the Medical Director, the Safety Officer, Chairperson of Hospital Infection Prevention and Control Committee, Infection Prevention and Control personnel, and other appropriate individuals will review the available information and determine whether additional action is needed
- Current resource availability will be assessed using the Surge Capacity Management Plan (Attachment A)
- The Chief Nursing Officer, the Medical Director, or their designee, will determine if the facility's Hospital Command Center (HCC) needs to be activated, and if so, will notify the Safety Officer and other appropriate individuals.

Ongoing communication considerations will include the need for:

- Frequent updates for managers, physicians, and other hospital personnel
- Infection Preventionist to visit units to assess their situation and offer assistance regarding Infection Prevention and Control issues
- Maintaining communication with local Public Health Services
- Requesting assistance from local or state health departments or other agencies

EVALUATION

The Chief Nursing Officer, Medical Director, Safety Officer, Infection Prevention and Control staff, Chairperson of the Hospital Infection Prevention and Control Committee, and other appropriate individuals will evaluate the situation on an ongoing basis to determine:

- If other patient admissions need to be suspended
- If elective procedures, including surgery, need to be cancelled
- If the facility's visiting policy needs to be temporarily revised, or suspended
- Appropriate patient placement, including alternative sites for patient holding, triage, treatment and morgue facilities, as needed
- When the Influx Contingency Plan is no longer needed

Title	Name	Phone
Chief Hospital Administrator	Aries Limbaga, DNP,MBA	X 57025
Chief Infectious Disease	Michael Bolaris, MD	X 57369
Chief of Medical Officer	Barry Jordan, MD, MPH	X 57161
Chief of Nursing	Michelle Sterling, DNP, RN, ACNS-BC	X 57911
Hospital Disaster Coordinator	Peter Jeorge Teodoro, MHA	X 57291
Hospital Safety Officer	Justine Dam, MPH	X 57291
Infection Prevention and ControlDirector -Nursing	Ivan Amameda, RN,CIC	X 56744
Laboratory Director	Melanie Osby, MD	X 58994
Pharmacy Director	Thinh Tran, PharmD	X 57239
Respiratory Therapy	Ernest Phaire,BSRCP	X 57851
Social Worker Director	Sandra Maldonado-Aviles,MSW, LCSW	X 57867

Internal Contact Information

External Contact Information

Agency Name	Phone Number	Fax
LA County Acute Communicable Diseases	(213) 240-7941 (M-F 8 a.m. - 5 p.m.) (213) 974-1234 (after hours)	(213) 482-4856
LA County Bioterrorism Early Warning Unit, part of Joint Regional Intelligent Center (An interdisciplinary group composed of local, state, & federal agencies, established by Sheriff Dept.)	(562) 345-1100 (M-F 6a.m. – 6 p.m.) (562) 345-1770 (After hours or weekend)	
Bioterrorism, CDC Emergency Responsse Office	(770) 488-7100	
California State Health Department	(916) 650-6416	(916) 650-6420
CDC Healthcare Quality and Promotion Program	(404) 639-3311	

FBI Field Office	(310) 477-6565	

All phone numbers verified on 03/15/2022

Bioterrorism Event Description

The following table is designed to assist public health officials in identifying possible bioterrorism events. For the clinician, it is intended to reflect the importance of **immediate notification** to the Public Health Department of any of the reportable diseases listed.

BIOTERRORISM EVENT DEFINITION	HIGHLY SUGGESTIVE OF BIOTERRORISM	MODERATELY SUGGESTIVE OF BIOTERRORISM	NOTES
ANTHRAX (Inhalation)			
Single Case	√		Definitely diagnosed or strongly suspected case.
ANTHRAX (Cutaneous)			
Single Case	√		In a patient without compatible risk factors for naturally occurring disease.
PLAGUE (Pneumonic) or TULAREMIA			
Single Case		√	Definitely diagnosed and occurring in a patient with no know compatible risk factors.
Greater Than One Case	√		With at least 1 laboratory confirmed case, no known risk factors, and occurring in a brief period.
SMALLPOX			
Single Case	√		Definitely diagnosed or strongly suspected case.
VIRAL HEMORRHAGIC FEVER			
Single Case	√		In a patient with no international travel history.
BRUCELLOSIS			
Cluster of Cases		√	Occurring in persons with no known compatible risk factors.
BOTULISM			
Number Above Baseline		√	Presumptively diagnosed cases with no known compatible risk factors occurring in a brief time period.
RESPIRATORY ILLNESS			
Number Above Baseline		√	Unexplained severe respiratory illness requiring hospitalization occurring outside the usual flu season.
DEATHS			
Number Above Baseline		√	Unexplained deaths occurring in a brief time period within a defined geographic region.
ANY UNUSUAL EPIDEMIOLOGIC FEATURES		√	The occurrence of any unusual epidemiologic features in a seemingly natural outbreak (e.g., absence of the usual risk factors for disease, or the presence of unusual risk factors or greater than expected morbidity or mortality).

Source: Adapted from the State of California's Surveillance and Epidemiologic Response Plan ttp://www.dhs.ca.gov/ps/dcdc/bt/index.htm. Source: LA County Terrorism Agent Information and treatment guidelines for Hospitals and Clinicians, 2003.

Infection Prevention and Control Practices for Patient Management

For certain highly contagious organisms (smallpox, SARS), it may be necessary to screen those entering the facility. The Infection Prevention and Control officer at the Hospital Command Center will determine if this is necessary and will notify Comarr staff to triage patients in Unit 702. It may be necessary to block some entrances. Most agents of bioterrism are not transmitted from person to person; re-aerosolization of these agents is unlikely. For certain diseases or syndromes, special isolation measures may be needed. Smallpox requires strict isolation with negative pressure. Pneumonic plague requires respiratory isolation without negative pressure. Ebola virus requires strict isolation without negative pressure. The laboratory should be notified immediately so that appropriate precautions can be taken. The CDC recommended two-step isolation precautions are described as follows:

Isolation Precautions

Standard Precautions

Standard precautions are employed in the care of ALL patients. Standard precautions are fundamental to patient care regardless of patient's diagnosis or presumed infection status and are the standards of practice by every healthcare worker.

- Wash hands after patient contact
- Wear gloves when touching blood, body fluids, secretions, excretions and contaminated items
- Wear a mask and eye protection, or a face shield and a gown during procedures likely to generate splashes or sprays of blood, body fluids, secretions or excretions
- Handle used patient-care equipment and linen in a manner that prevents the transfer of microorganisms to people or equipment
- Use care when handling sharps and use a mouthpiece or other ventilation devices as an alternative to mouth-to-mouth resuscitation when practical
- Ensure that the hospital has adequate procedures for the routine care, cleaning and disinfecting of environmental surfaces, beds, bedrails, bedside equipment, and other frequently touched surfaces
- Handle, transport and process used linen soiled with blood, body fluids, secretions and excretions in a manner that prevents skin and mucous membrane exposures and contamination of clothing and avoids transfer of microorganisms to other patients and environments.
- Take care to prevent injuries when using needles, scalpels and other sharp instruments or devices
- Place a patient who contaminates the environment or who does not (or cannot be expected to) assist in maintaining appropriate hygiene or environmental control in a

private room. If a private room is unavailable, consult with Infection Prevention and Control professionals regarding patient placement or other alternatives

Contact Precautions

Standard Precautions plus:

- Place the patient in a private room or cohort them with someone with the same infection if possible
- Wear gloves when entering the room. Change gloves after contact with infective material. Remove gloves before leaving the patient's room
- Wear a gown when entering the room or if patient has diarrhea, colostomy or wound drainage not covered by a dressing
- Limit the movement and transport of the patient from the room
- Daily cleaning of patient-care objects, bedside equipment and frequently touched surfaces
- Dedicate use of medical equipment. If this is not feasible adequate disinfection between patients is necessary

Droplet Precautions

Standard precautions plus:

- Place the patient in a private room or cohort them with someone with the same infection. If this is not feasible, maintain at least 3 feet between patients
- Wear a mask when working within 3 feet of the patient
- Limit movement and transport of the patient. Place a mask on the patient if s/he needs to be moved from their room.

Airborne Precautions

Standard precautions plus:

- Place the patient in a private room that has a monitored negative airflow room with six to twelve air exchanges per hour and appropriate filtration of air (high efficiency particulate air) before it is discharged from the room. Wear a properly fitted N95 or higher quality mask when entering the room. Limit movement and transport of the patient. Place a mask on the patient if s/he needs to be moved from their room.

VHF-specific Barrier Precautions

- Strict adherence to hand hygiene
- Place the patient in a private room that has monitored negative airflow room, with six to twelve air exchanges per hour, and appropriate filtration of air (high efficiency particulate air filter) before it is discharged from the room.
- Wear a properly fitted N95 mask or higher quality mask, double gloves, impermeable gown, leg and shoe covering, face shield and goggles when entering the room
- Dedicate use of medical equipment
- Disinfect environment with an EPA-registered hospital disinfectant or a 1:100 dilution of household bleach
- Limit the movement or transport of the patient from the room

(Please note these precautions are more stringent than recommended in health care settings in developing nations. For more information see

http://www.cdc.gov/ncidod/dvrd/spb/mnpages/vhfmanual.htm

For more information on Isolation precautions, please see

http://www.cdc.gov/ncidod/hip/isolat/isolat.htm

A quick reference regarding isolation guidelines for different types of bioterrorism agents and in different situations are indicated in the following table.

Isolation Guidelines

Patient Management **IMPORTANT PHONE NUMBERS** **Infectious Diseases : x 7461** **Infection Prevention and Control: x 7447** **LACDHS Acute Communicable Disease Control Unit** **Business Hours: (213) 240-7941** **After Hours: (213) 974-1234**	BACTERIAL AGENTS	**Anthrax**	**Brucellosis**	**Cholera**	**Glanders**	**Bubonic Plague**	**Pneumonic Plague**	**Tularemia**	**Q Fever**	**VIRUSES**	**Smallpox**	**Viral Encephalitis**	**Viral Hemorr. Fevers**	**BIOLOGICAL TOXINS**	**Botulism**	**Ricin**	**T-2 Mycotoxins**	**Staph. Enterotoxin B**
Isolation Precautions																		
Standard Precautions for all aspects of patient care		x	x	x	x	x	x	x	x		x	x	x		x	x	x	x
Contact Precautions (gown and gloves; Wash hands after each patient encounter)				x***	x*	x*					x		x				x*	
Airborne Precautions (negative pressure room and N95 mask for all individuals entering the room)											x		x**					
Droplet Precautions (surgical mask)							x						x**					
Patient Placement																		
No restrictions		x	x	x	x			x	x			x			x	x	x	x
Cohort "like" patients when private room is not available				x***	x*	x	x				x		x				x*	
Private room				x***	x*	x*	x				x		x				x*	
Negative pressure											x		x**					
Door closed at all times											x		x**					
Patient Transport																		
No restrictions		x	x	x	x	x		x	x			x			x	x	x	x
Limit movement to essential medical purposes only				x***	x*	x*	x				x		x				x*	
Place mask on patient to minimize dispersal of droplets							x				x		x**					
Cleaning and Disinfection																		
Routine cleaning of room with hospital approved disinfectant		x	x	x	x	x	x	x	x		x	x			x	x	x	x
Disinfect surfaces with 10% bleach solution or phenolic disinfectant													x					
Dedicated equipment (disinfect prior to leaving room)					x***	x*	x*				x		x				x*	
Linen management as with all other patients		x	x	x	x	x	x	x	x			x	x		x	x	x	x
Linens autoclaved or laundered in hot water with bleach added											x							
POST-MORTEM CARE																		
Follow principles of Standard Precautions		x	x	x	x	x	x	x	x		x	x	x		x	x	x	x
Droplet Precautions (surgical mask)							x											

Patient Management **IMPORTANT PHONE NUMBERS** **Infectious Diseases : x 7461** **Infection Prevention and Control: x 7447** **LACDHS Acute Communicable Disease Control Unit** **Business Hours: (213) 240-7941** **After Hours: (213) 974-1234**	BACTERIAL AGENTS	**Anthrax**	**Brucellosis**	**Cholera**	**Glanders**	**Bubonic Plague**	**Pneumonic Plague**	**Tularemia**	**Q Fever**	**VIRUSES**	**Smallpox**	**Viral Encephalitis**	**Viral Hemorr. Fevers**	**BIOLOGICAL TOXINS**	**Botulism**	**Ricin**	**T-2 Mycotoxins**	**Staph. Enterotoxin B**
Contact Precautions (gown and gloves)					x*	x*					x		x				x*	
Avoid autopsy or use Airborne Precautions and HEPA filter							x				x		x**					
Routine terminal cleaning of room with hospital approved disinfectant		x	x	x	x	x	x	x	x		x	x	x		x	x	x	x
Disinfect surfaces with 10% bleach solution or phenolic disinfectant													x					
Minimal handling of body; seal body in leak-proof material													x					
Cremate body whenever possible											x							
DISCONTINUATION OF ISOLATION																		
48 hours of appropriate antibiotic and clinical improvement							x											
Until all scabs separate											x							
Until skin decontamination completed (1 hour contact time)																	x	
Duration of illness				x***	x*	x*							x					

Standard Precautions – Prevent direct contact with all body fluids (including blood), secretions, excretions, non-intact skin (including rashes) and mucous membranes. Standard Precautions routinely practiced by healthcare providers include: splash/spray and gowns to protect skin and clothing during procedures.

* Contact Precautions needed only if patient has skin involvement (bubonic plague: draining bubo) or until decontamination of skin is complete (T2 Mycotoxins).

** A surgical mask and eye protection should be worn if you come within 3 feet of patient. Airborne Precautions are needed if patient has cough, vomiting, diarrhea or hemorrhage.

*** Contact Precautions needed only if the patient is diapered or incontinent.

Designed by LTC Suzanne E. Johnson, RN, MSN, CIC, Walter Reed Army Medical Center; Revised by Center for the Study of Bioterrorism and Emerging Infections. Source: LA County Terrorism Agent Information and Treatment Guidelines for Hospitals and Clinicians, 2003.

ANTHRAX (*Bacillus anthracis)* Quick Reference Sheet

ALL SUSPECTED CASES OF ANTHRAX MUST BE REPORTED IMMEDIATELY TO LAC DHS ACUTE COMMUNICABLE DISEASE CONTROL PROGRAM

During Business Hours: (213) 240-7941

After Hours (County Operator): (213) 974-1234

Ask to Speak with the Public Health Physician on Call

Epidemiology:

- Anthrax infection occurs in humans in 3 major forms: inhalational, cutaneous and gastrointestinal. Cutaneous anthrax is the most common naturally occurring form and results from direct contact with infected animals or animal products. Gastrointestinal anthrax, resulting from ingestion of inadequately cooked meat from infected animals, is rare.
- The spore form of anthrax is highly resistant to physical and chemical agents; spores can persist in the environment for years
- In the United States, in October 2001, anthrax-contaminated mail resulted in 22 cases (inhalational and cutnaeous) and 5 deaths

Clinical:

Inhalational anthrax:

- Incubation period 1-7 days (range up to 43 days in humans and 60 days in non-human primates)
- Presents as acute hemorrhagic mediastinitis
- Mediastinal widening by chest X-ray or CT in previously healthy, non-trauma patient is virtually pathognomonic
- Biphasic illness with an initial phase characterized by nonspecific flu-like illness followed by an acute phase characterized by acute respiratory distress, toxemia (sepsis), chest pain, dyspnea and abdominal pain
- Hemorrhagic meningitis in 50% of inhalational anthrax cases
- Mortality rates from 90% (historic) to 45% (2001 attack)

Cutaneous anthrax:

- Incubation period 1-7 days (up to 12 days)
- Presents as a papule, progressing to vesicle and ulcer with black eschar over 3-10 days

Laboratory Diagnosis:

- Gram stain of primary specimen shows gram-positive non-motile bacilli, occurring singly or in short chains, often with squared off ends ("bamboo-rod" appearance); additionally a capsule may be visible as clear zones around the bacilli or be demonstrated by negative staining with India ink on a wet mount. In advanced disease, a Gram stain of unspun blood may be positive. Sputum is rarely positive.
- Distinguishing characteristics on culture include: non-hemolytic, non-motile, spore forming rods; encapsulated bacteria may be seen from positive blood culture bottles and from growth on specialized solid media (not sheep-blood agar) under appropriate conditions.
- Gamma phage lysis, DFA, PCR and time resolved fluorescence assays are available at the Public Health Laboratory and national reference laboratories for confirmatory testing.
- Primary isolation and Gram stain can be performed at the hospital (level A, BSL-2)
- Processing of environmental specimens and powders requires BSL-3 laboratory facilities and should not be performed in clinical laboratories; contact the Public Health Laboratory.

Treatment:

- Prompt initiation of antibiotic therapy and antibiotic susceptibility testing.
- Doxycycline combined with 1 or 2 other antibiotics for inhalational anthrax, are the antibiotics of choice for penicillin-resistant anthrax or for empiric therapy while awaiting susceptibility results; treatment should be continued for at least 60 days.

Management of Exposed Persons:

- If vaccine is available, all exposed persons (as determined by local and state health departments) should be vaccinated with 3 doses of anthrax vaccine (days 0, 14 and 28).
- Start antibiotic prophylaxis immediately after exposure with ciprofloxacin (or acceptable alternative fluoroquinolone) or doxycycline. If strain is penicillin susceptible, therapy can be changed to penicillin or amoxicillin.
- Antibiotic prophylaxis should be continued until 3 doses of vaccine have been administered. If vaccine is unavailable, antibiotics should be continued for at least 60 days.
- Compliance with the full course of antibiotic prophylaxis must be reinforced regardless of the perceived level of exposure; no "short courses" should be administered.

Infection Prevention and Control:

- Standard Precautions - anthrax is not transmitted from person-to-person.

BOTULISM (Botulinum Toxin) Quick Reference Sheet

ALL SUSPECTED CASES OF BOTULISM MUST BE REPORTED IMMEDIATELY TO LAC DHS ACUTE COMMUNICABLE DISEASE CONTROL PROGRAM

During Business Hours: (213) 240-7941

After Hours (County Operator): (213) 974-1234

Ask to Speak with the Public Health Physician on Call

Epidemiology:

- Botulinum neurotoxins (A-G) could be transmitted by aerosol or contamination of food and/or water supplies
- Botulism is NOT transmitted from person-to-person

Clinical:

- Incubation period is typically 12-72 hours (range 2 hours to 8 days)
- Early symptoms include blurred vision, diplopia and dry mouth
- Later symptoms include dysarthria, dysphagia, dysphonia, ptosis and the development of a *symmetrical, descending* progressive paralysis and respiratory failure
- Patients are usually alert with normal mental status, afebrile and with normal sensory nerve function

Laboratory Diagnosis:

- Initial diagnosis is primarily based on clinical presentation
- Spinal fluid protein is normal and characteristic findings are seen on EMG (facilitation of the compound muscle action potential on repetitive nerve stimulation)
- Toxin can be detected in serum and stool (foodborne botulism) by mouse neutralization bioassay
- Laboratory confirmation is available through LAC Public Health Laboratory, arrange by calling LAC DHS ACDC

Treatment:

- Supportive care is the mainstay of therapy; prolonged ventilatory support is often required for severe cases
- Botulinum antitoxin (for A, B and E toxins) is in limited supply and is available after approval by LAC DHS ACDC. Rapid administration is essential **after** hypersensitivity testing

Management of Exposed Persons:

- Currently, there is no available post exposure prophylaxis

Infection Prevention and Control:

- Standard Precautions – botulism is not transmitted from person-to-person

PLAGUE (*Yersinia pestis)* Quick Reference Sheet

ALL SUSPECTED CASES OF PLAGUE MUST BE REPORTED IMMEDIATELY TO LAC DHS ACUTE COMMUNICABLE DISEASE CONTROL PROGRAM

During Business Hours: (213) 240-7941

After Hours (County Operator): (213) 974-1234

Ask to Speak with the Public Health Physician on Call

Epidemiology:

- Naturally occurring plague is a zoonotic disease of rodents that can be transmitted to humans from the bite of a plague-infected flea
- There are 3 forms of plague: bubonic, primary septicemic and pneumonic
- The Pneumonic form is thought to be the most likely to be seen in a bioterrorist attack
- Intentional aerosol release should be suspected if human cases occur in non-endemic areas or in persons with no known risk factors in the absence of prior rodent deaths

Transmission:

- Exposure to respiratory droplets (within 6.5 ft of human or animal with pneumonic form)
- Direct contact with infected animals or exposure to persons with pneumonic plague
- Bite of plaque-infected flea
- Direct contact with infected draining buboes

Clinical:

- **Pneumonic plague**: Characterized by fulminant pneumonia with acute onset of fever, chills, headache, malaise and a productive cough, that is initially watery before becoming bloody.
- Untreated, rapid progression to dyspnea, stridor, sepsis, cyanosis and death
- **Bubonic Plague:** Characterized by painful lymphadenitis, high fever, malaise
- **Septicemic Plague**: 80% of persons with bubonic form become septic; 5-15% develop secondary pneumonic plague.

Laboratory Diagnosis:

- Presumptive: Gram-negative bacillus, sometimes coccobacillus, with bipolar ("safety-pin") staining on Gram, Wright, Giemsa, or Wayson stain of blood, sputum, CSF or lymph node aspirate
- Organism grows slowly on standard blood and MacConkey agar
- Confirmatory: Immunofluorescent staining for capsule (F1 antigen) and phage lysis

Treatment:

- Streptomycin or gentamicin are the preferred antibiotics
- Doxycycline, tetracycline or fluoroquinolones are alternative choices
- Chloramphenicol should be used to treat plague meningitis

Management of Exposed Persons:

- Oral antibiotic prophylaxis is recommended for all persons exposed to aerosol or persons in close physical contact with a confirmed case.
- Doxycycline, tetracycline or fluoroquinolones are recommended for 7 days.
- Contacts who develop fever or cough should begin IV or IM antibiotic treatment.

Infection Prevention and Control:

- Droplet Precautions with confirmed or suspected pneumonic plague.
- Contact Precautions with confirmed or suspected bubonic plague until the patient has received at least 48-72 hours of antibiotics AND the patient is showing clinical signs of improvement.

SARS (Severe Acute Respiratory Syndrome)

ALL SUSPECTED CASES OF SARS MUST BE REPORTED IMMEDIATELY TO LAC DHS ACUTE COMMUNICABLE DISEASE CONTROL PROGRAM

During Business Hours: (213) 240-7941

After Hours (County Operator): (213) 974-1234

Ask to Speak with the Public Health Physician on Call

Epidemiology:

SARS is an acute viral illness caused by a corona virus known as SARS CoV. SARS is an agent that is known to cause outbreaks that can spread rapidly in the health care setting. Previous SARS outbreaks have occurred in specific geographic areas, so a history of travel to (or exposure to people who have traveled to) these areas may be important. The CDC website (www.cdc.gov) is the best source of current information on geographic areas that have a risk of SARS

Mode of transmission:

SARS is primarily transmitted via respiratory droplets. Spread by contaminated body fluids (diarrhea) has been implicated in some outbreaks.

Incubation period:

The incubation period for SARS is 2-10 days.

Preventive Measures:

Vaccine for SARS, though vaccines are in development. The primary means of controlling SARS is infection control measures.

Clinical:

Early clinical symptoms of SARS may resemble other acute febrile viral illnesses, such as influenza: usually include fever, chills, rigors, myalgia, and headache. Diarrhea may also be present. As the illness progresses patients may develop a respiratory distress syndrome with hypoxia and progressive Chest X-Ray infiltrates.

Respiratory symptoms--typically shortness of breath and/or dry cough--often do not appear until 2-7 days after the onset of illness. Laboratory abnormalities can include lymphopenia; elevated levels of hepatic transaminases, creatine phosphokinase, lactate dehydrogenase, and C-reactive protein; and prolonged activated partial thromboplastin time.

Treatment:

Currently, the CDC is not making any specific treatment recommendations for SARS. Empiric therapy for community-acquired pneumonia should include treatment for organisms associated with an unclear etiology. Physicians are encouraged to consult an infectious disease specialist when managing a SARS patient. Morantz & Torrey indicated that the CDC recommends patients with SARS receive the same treatment that would be used for any patient with serious community-acquired atypical pneumonia of unknown cause (Morantz & Torrey, 2003).

Infection Prevention and Control Practices for Patient Management:

Symptomatic patients with suspected or confirmed SARS should be managed according to current guidelines. Treatment is primarily supportive

Isolation precautions

Although transmission appears to be primarily by droplet infection, due to the observed rapid spread of SARS in health-care settings, patients with suspected or confirmed SARS should be placed in Isolation Precautions with a negative pressure room in addition to Standard Precautions. Place in a private room with HEPA Filter installed and door closed when negative pressure room is not available. Strict Isolation is designed to prevent transmission of highly contagious or virulent infections that may be spread by air or contact.

- Airborne Isolation Precautions require healthcare providers and others to wear respiratory protection (N95 mask) eye protection, gown and gloves when entering the room.. Hands must be washed using an antimicrobial agent.
- Airborne Isolation Precautions are used for patients known or suspected to be infected or colonized with epidemiologically important organisms that can be transmitted by aerosol, direct contact with the patient or indirect contact with potentially contaminated surfaces in the patient's care area.

Post Exposure Management

A. Identification of Possible Contacts

If a patient is suspected to have SARS, any possible contacts in the immediate area (staff, patients, or visitors) should be notified by Infection Preventionist.

Infection Prevention and Control and employee health will coordinate the identification, contact, assessment, and delivery of post-exposure care to potentially exposed healthcare workers.

B. Decontamination of patients / environment

- Patient decontamination after exposure to SARS is not indicated.
- EVS/ Servicon to do terminal cleaning.
- Items potentially contaminated by infectious droplets should be handled using Strict Precautions.

C. Post-Exposure Prophylaxis

There is currently no known effective post-exposure prophylaxis for SARS. Exposed

individuals should be instructed to monitor themselves for development of fever or respiratory symptoms during the incubation period (i.e., up to 10 days after exposure).

D. Triage and management of large scale exposures / potential exposures
Facilities management will assist Infection Prevention and Control in identifying sites (e.g., a designated ward or clinic) that can provide proper respiratory precautions if it is necessary to cohort a large number of patients.

Laboratory Support and Confirmation

A serology test for SARS antibodies is available that can be performed on blood samples. The antibody test maybe negative during the acute phase of illness, and confirmation may require testing convalescent serum 3 weeks later. PCR testing maybe indicated as per Infectious Disease specialist/ Public Health recommendations.

For decisions regarding obtaining and processing diagnostic specimens, the director of the microbiology laboratory will contact DPH for instructions on specimen processing and testing. CDC recommended a signed consent for SARS-CoV testing and for storing specimen remainders for future investigation. SARS testing can be done through the local health department lab. The microbiology lab director will be responsible for determining appropriate packaging materials and transport media.

Patient, Visitor, and Public Information:

Fact sheets for distribution will be prepared by the infectious diseases physician in consultation with Infection Prevention and Control, DHS and the local health department including a clear description of symptoms and where to report for evaluation and care if such symptoms are recognized. Details about the type and duration of isolation should be provided.

Smallpox (variola major) Quick Reference Sheet

ALL SUSPECTED CASES OF SMALLPOX MUST BE REPORTED IMMEDIATELY TO LAC DHSACUTE COMMUNICABLE DISEASE CONTROL PROGRAM

During Business Hours: (213) 240-7941

After Hours (County Operator): (213) 974-1234

Ask to Speak with the Public Health Physician on Call

Epidemiology:

- Declared eradicated worldwide in 1980 by the World Health Organization (WHO)
- Transmission person-to-person, primarily by droplet nuclei or aerosols, but can occur by direct contact
- Transmission does not occur until onset of rash
- No animal reservoir
- Incubation period is 12-14 days (range 7-17 days)
- Characteristic rash appears 1-4 days after nonspecific, flu-like prodrome (high fever, malaise, and prostration, with headache and backache)
- Maculopapular rash begins on face, hands, forearms and spreads to legs and centrally to trunk; lesions are more predominant on the face and extremities than on the trunk
- Lesions progress synchronously from macules to papules to vesicles to pustules to crusty scabs over course of about two weeks

Diagnosis:

- A vaccinated member of the Public Health Smallpox Response Team should perform all lab specimen collections on patients classified as high risk by the CDC algorithm
- Specimen examination requires Biosafety Level (BSL) -4 containment facilities (CDC or USAMRIID) for confirmation by electron microscopy, PCR, RFLP or cell culture

Treatment:

- Supportive care is the mainstay of therapy.
- In vitro antiviral activity against poxviruses have been shown with adefovir, cidofovir, dipivoxil and ribavirin. Animal studies suggest that cidofovir may be most effective.

Management of Exposed Persons:

- Smallpox vaccine is required for all persons exposed at the time of a bioterrorist attack, anyone with close personal contact to a smallpox case during the infectious period, and household or other close contacts of the primary contacts
- Vaccine is most effective if given before or within 3 days of exposure

Infection Prevention and Control:

- Strict Airborne and Contact Precautions from the onset of the rash until all scabs separate
- Confirmed and suspected cases should be isolated in negative air pressure isolation rooms. In an outbreak setting, confirmed and suspected cases should be isolated in designated smallpox receiving facilities
- Only healthcare workers who have been vaccinated within the past 3 years and with a confirmed "take" should be exposed to a suspected or confirmed smallpox case.
- Asymptomatic contacts must be placed under fever surveillance for 18 days after their last exposure or until 14 days following successful vaccination (whichever comes first)
- Asymptomatic contacts to a smallpox case may be monitored in their homes or in a designated residential setting as directed by the local health officer
- Asymptomatic, afebrile contacts are not contagious and do not need to be isolated
- The authority to impose community or population-wide quarantine measures, (such as closing schools and offices, and recommending that the community remain in their homes) resides with Public Health, although implementation would require a multi-jurisdictional approach

Preventive Measures:

Vaccination

A live-virus intradermal vaccination is available for the prevention of smallpox. Smallpox vaccine is not widely available, but could be made available through the LA County Department of Health Services (DHS) if needed in the event of an outbreak or for pre-event vaccination.

Since the last naturally acquired case of smallpox in the world occurred more than 20 years ago, routine public vaccination has not been recommended. Vaccination against smallpox does not reliably confer lifelong immunity. **Even previously vaccinated persons should be considered susceptible to smallpox.**

In the event of a smallpox outbreak, there will be a need to rapidly vaccinate staff. Vaccination of staff will be coordinated by employee health, with consultation from the division of infectious disease and LA DHS. Employee Health Services (EHS) will be responsible for keeping a list of staff who have been vaccinated against smallpox and sharing that list with incident commanders

and Infection Prevention and Control staff.

EHS will also be responsible for monitoring vaccine adverse events among hospital staff. Vaccination will be coordinated in concert with the LA County Smallpox Preparedness Plan, and may involve vaccination of staff at a site established by DHS.

In the event that smallpox vaccine is initially available in limited supply, the following staff, as determined by a multi-disciplinary team, would receive priority for vaccination with the first 100 doses:

Staff Category	# of Staff
Ambulatory Care Physicians	2
Ambulatory Care Nurses	10
ICU Physicians	2
ICU Nurses	12
Unit Medical Staff Physicians	6
Unit Nurses	24
Infection Prevention and Control Staff	3
Infectious Disease Physician	1
Respiratory Therapists	8
Radiology Technicians	2
Hospital Security	3
Environmental Services	4
Engineering / Maintenance	2
Employee Health	2
Surgical Team – MDs, Nurses, Anesthesia	6
Psychiatry – MDs and Social Workers	5
Hospital Chaplain	1
Financial Workers (for registration)	2
Laboratory / Pathology staff/Phlebotomist	5
TOTAL	**100**

TULAREMIA (*Francisella tularensis*) Quick Reference Sheet

ALL SUSPECTED CASES OF TULAREMIA MUST BE REPORTED IMMEDIATELY TO LAC DHS ACUTE COMMUNICABLE DISEASE CONTROL PROGRAM:

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

After Hours (County Operator): (213) 974-1234

Ask to Speak with the Public Health Physician on Call

Epidemiology:

- Highly infectious after aerosolization
- Infectious dose can be as low as 10-50 aerosolized organisms

Clinical:

- Incubation period is 3-5 days (range 1-14 days)
- Aerosolization would most likely result in primary pleuropneumonic or typhoidal tularemia
- Typhoidal tularemia is a nonspecific illness, with fever, headache, malaise and nonproductive cough (mortality rates can be as high as 30-60% if untreated) without cutaneous or mucosal membrane lesions or regional lymphadenitis. Secondary pleuropulmonary involvement is common.
- Ingestion of contaminated food or drinking contaminated water may result in oropharyngeal tularemia

Diagnosis:

- Requires a high index of suspicion given nonspecific presentation
- Organism is difficult to culture and grows poorly on standard media; cysteine-enriched media is required
- Diagnosis of tularemia is usually confirmed serologically; antibody titers may not be elevated until 10 or more days after onset
- Bacterial cultures should be handled under Biosafety Level 3 conditions

Treatment:

- Parenteral streptomycin or gentamicin for 7-14 days is recommended

- Tetracyclines are alternative choices although they are bacteriostatic and associated with higher relapse rates and must be continued for at least 14 days

Management of Exposed Persons:

- Antibiotic prophylaxis is most effective if begun within 24 hours after exposure
- Tetracyclines are recommended for 14 days

Infection Prevention and Control:

- Person-to-person transmission does **not** occur
- Standard Precautions are sufficient; isolation is not required
- Alert laboratory if suspicion for tularemia as additional precautions needed in laboratory

Quick Reference Sheet: Hemorrhagic Fever Viruses (HFV)

ALL SUSPECTED CASES OF HEMORRHAGIC FEVER VIRUSES MUST BE REPORTED IMMEDIATELY TO LAC DHS ACUTE COMMUNICABLE DISEASE CONTROL PROGRAM

During Business Hours: (213) 240-7941

After Hours (County Operator): (213) 974-1234

Ask to Speak with the Public Health Physician on Call

Epidemiology:

- HFV reside in animal hosts or arthropod vectors; humans are incidental hosts
- The natural reservoir of filoviruses (Ebola and Marburg) is unknown
- Low infectious dose and highly infectious by aerosol dissemination; ability to cause large outbreaks
- Person-to-person transmission occurs with filoviruses (Ebola, Marburg), arenaviruses (Lassa fever, New World arenaviruses) and Crimean-Congo virus
- Direct contact with infected blood and bodily fluids has accounted for the majority of cases of person-to-person transmission

Clinical:

- Incubation period ranges from 2-22 days
- Filoviruses, Rift Valley fever, and flaviviruses present with an abrupt onset, while arenaviruses have a more insidious onset
- HFV initially exhibit a non-specific illness, with high fever, headache, malaise, arthralgias, myalgias, nausea, abdominal pain and nonbloody diarrhea
- Early signs include fever, hypotension, bradycardia, tachypnea, conjunctivitis, pharyngitis and cutaneous flushing or rash
- Later signs include progressive hemorrhagic diathesis, hematuria, hematemesis and melena
- Severe illness may lead to DIC, circulatory shock, nervous system dysfunction, coma, delirium and seizures

Diagnosis:

- Requires a high index of suspicion given non-specific presentation and no known risk factors
- Virus isolation requires BSL-4 containment facilities (CDC or USAMRIID)

Treatment:

- Supportive care is the mainstay of therapy
- Prompt initiation of ribavirin therapy while diagnostic confirmation is pending
- If an arena virus or bunya virus is confirmed continue ribavirin for a total of 10 days

Management of exposed persons:

- High risk and close contacts of patients diagnosed with HFV should record their temperature twice daily for 21 days post exposure and report any temperature ≥ 101ºF (≥ 38.3ºC) or other signs or symptoms of HFV
- Start ribavirin therapy in high risk or close contacts who report fever ≥ 101ºF (≥ 38.3ºC) or other signs or symptoms of HFV, while initiating diagnostic workup, treatment and infection control
- With the exception of yellow fever there is no vaccine for HFV

Patient Isolation:

- Contact and Airborne Precautions are required

RICIN Quick Reference Sheet: Ricin Poisoning

ALL SUSPECTED CASES OF RICIN POISONING MUST BE REPORTED IMMEDIATELY TO THE LAC DHS ACUTE COMMUNICABLE DISEASE CONTROL PROGRAM:

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

After Hours (County Operator): (213) 974-1234

Ask to Speak with the Public Health Physician on Call

Epidemiology:

- Ricin is a potent protein toxin derived from the beans of the castor plant (*Ricinus communis*)
- Castor beans are widely available; the toxin is easily extracted and stable
- Possible routes of exposure include: respiratory, gastrointestinal and parenteral

Clinical:

- Incubation period varies depending on type of exposure and dose; ranges from minutes to 18 hours
- Inhalation of ricin presents with fever, weakness, cough, dyspnea and arthralgia; pulmonary edema develops within 18-24 hours; death occurs within 36-72 hours
- Ingestion of ricin presents with severe gastroenteritis that may progress to severe fluid and electrolyte imbalance, peripheral vascular collapse and death
- Injection of ricin presents with severe local necrosis of muscle and regional lymph nodes followed by multi organ failure and death

Diagnosis:

- Diagnosis depends on a high index of suspicion
- Geographical clustering of patients presenting with similar symptoms
- Laboratory findings are non-specific; within 24 hours of exposure nasal or throat swabs and induced respiratory secretions for toxin assay; 36-48 hours post exposure send serum for toxin assay and antibody response; greater than 6 days post exposure check serum for IgM and IgG

Treatment:

- Supportive care is the mainstay of therapy including IV fluid and electrolyte replacement
- Respiratory support may be necessary
- Gastric decontamination with super activated charcoal

Prophylaxis:

- Currently there is no available prophylaxis

Infection Prevention and Control:

- Standard precautions – ricin is not transmitted from person-to-person

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