

Table of Contents

25 Chapter 25 – Aerosol Transmissible Diseases

25.1 Foreword

25.2 Introduction

25.2.1 Referring Departments

25.2.1.1 Typical Referring Departments

25.2.1.2 Infection Control Procedures

25.2.2 Laboratory Operations

25.2.2.1 Engineering and Work Practice Controls

25.2.2.2 Biosafety Plan

25.2.3 Departments Who Provide Services to Patients

25.2.3.1 Services to Patients Departments

25.2.3.2 Infectious Disease Exposure Control Plan

25.2.3.3 Engineering, Work Practices and Personal Protective Equipment

25.2.3.4 Respiratory Protection

25.2.3.5 Medical Surveillance

25.2.3.6 Vaccinations

25.2.3.7 Exposure Incident Procedures

25.2.3.8 Seasonal Influenza

25.2.3.9 Employee Training

25.2.3.10 Recordkeeping

25.3 Roles and Responsibilities

25.3.1 Aerosol Transmissible Diseases (ATD) Program Manager

25.3.2 Agency/Department ATD Coordinator

25.3.3 Affected Employees

Chapter 25 – Aerosol Transmissible Diseases

25.4 Program Reviews

25.5 Reporting Requirements for ATD Exposure Incidents

25.6 Applicable Regulations

25.7 Appendices

25.7.1 Appendix A: Aerosol Transmissible Diseases/Pathogens

25.7.2 Appendix B: Aerosol Transmissible Pathogens – Laboratory

25.7.3 Aerosol Transmissible Disease Vaccination Recommendations for
Susceptible Health Care Workers

25.1 Foreword

The County of Santa Clara is concerned for the health and safety of all county employees. Employees in health care and other high-risk environments face new and emerging infectious disease threats, such as Severe Acute Respiratory Syndrome (SARS) and potentially pandemic influenza strains, as well as long-standing or re-emerging threats, such as tuberculosis (TB) and pertussis.

This plan would require county departments to implement common infection control measures in order to protect employees from those threats and to enable the employees to continue to provide health care and other critical services without unreasonably jeopardizing their own health.

The plan is based on established occupational health and biosafety guidelines and practices. The purpose of this plan is to identify those infection control measures which are necessary to protect county employees.

25.2 Introduction

The plan divides County Departments into three categories, based on the types of exposures and work settings:

- 1) Referring departments,
- 2) Laboratory operations, and
- 3) Departments who provide services to patients with airborne infectious diseases or departments who perform aerosolizing procedures on cadavers which may be infected with airborne infectious pathogens.

25.2.1 Referring Departments

“Referring departments” are departments which do not provide services beyond first aid and initial treatment to patients requiring airborne infection isolation (airborne infectious disease (AirID) cases or suspected cases) and who do not

perform aerosolizing procedures on cadavers potentially infected with Aerosol Transmissible Pathogens (ATPs).

25.2.1.1 Typical Referring Departments

Most of the departments within the scope of this plan, including most

- medical offices and clinics,
- homeless shelters,
- drug treatment programs,
- hospices,
- long-term care facilities, and
- jails, are considered as referring departments.

This type of department screens persons entering the work setting and refers people who are suspected or confirmed as being infectious with a disease requiring airborne infection isolation to a hospital or other appropriate facility in a timely manner.

Because these departments do not treat, house or otherwise manage patients requiring airborne infection isolation, they are not required to implement certain engineering controls and other protective measures.

25.2.1.2 Infection Control Procedures - Referring

The plan is to require referring departments to establish infection control procedures, which may be incorporated into the department's IIPP, or other infection control or communicable disease control plan. The procedures are required to be reviewed annually.

These procedures include:

- designation of a person who is responsible for implementing the procedures;
- written source control procedures;

Chapter 25 – Aerosol Transmissible Diseases

- procedures for timely referral of cases or suspected cases of airborne infectious diseases, or in the case of departments in non-medical settings, procedures for the timely referral to a health care provider for persons exhibiting readily observable signs of aerosol transmissible diseases;
- procedures to communicate with employees and other departments regarding the infectious status of patients;
- feasible risk reduction measures to protect employees during the time that a person requiring airborne infection isolation is in contact with employees, which may include
 - placing the person in a separate room or area,
 - providing separate ventilation or filtration, and
 - use of respiratory protection by employees entering the room or area if the person is not compliant with source control measures (such as failing to use a provided surgical mask or other means to cover their cough);
- medical surveillance for employees, including surveillance for latent tuberculosis infection (LTBI) for all exposed employees, the provision of vaccines for health care workers as recommended by the California Department of Public Health (CDPH) and provisions for exposure incidents;
- provision of the seasonal influenza vaccine;
- employee training; and
- recordkeeping

25.2.2 Laboratory Operations

“Laboratory operations” are departments which do not involve direct contact with persons who are cases or suspected cases of aerosol transmissible diseases and addresses research, production, and clinical laboratories.

Laboratory operations may aerosolize pathogens that are not normally transmitted between people via aerosols. An example of this type of transmission

is laboratory-acquired brucellosis, which is spread via aerosols of laboratory cultures. Laboratories may also work with cultures or other materials in which infectious agents are concentrated.

Maintenance, service or repair operations involve air-handling systems that may be reasonably anticipated to be contaminated with ATDs.

25.2.2.1 Engineering and Work Practice Controls - Laboratory

The department will implement feasible engineering and work practice controls to minimize exposure, and to provide necessary personal protective and respiratory protective equipment. Control measures should be consistent with the recommendations of the Center for Disease Control and Prevention (CDC), as published in Biosafety in Microbiological and Biomedical Laboratories.

25.2.2.2 Biosafety Plan - Laboratory

The department will establish, implement and maintain a biosafety plan, which could be incorporated into existing Exposure Control Plans, including

- respiratory protection,
- medical surveillance,
- vaccination,
- training and
- recordkeeping.

25.2.3 Departments who provide services to patients with airborne infectious diseases or departments who perform aerosolizing procedures on cadavers which may be infected with airborne infectious pathogens.

25.2.3.1 Services to Patients Departments

“Departments who provide services to patients with airborne infectious diseases (AirID) or departments who perform aerosolizing procedures on cadavers which

Chapter 25 – Aerosol Transmissible Diseases

may be infected with airborne infectious pathogens” includes work settings such as

- hospitals,
- emergency medical service providers,
- and tuberculosis clinics, as well as facilities such as
- jails or long-term care facilities that house and treat, rather than refer, AirID cases or suspected cases.
- maintenance, service or repair operations involving air-handling systems that may be reasonably anticipated to be contaminated with ATDs.

Other departments in this category include pathologists and others performing autopsies to the extent that they perform aerosol-generating procedures on cadavers that may be infected with aerosol transmissible pathogens.

25.2.3.2 Infectious Disease Exposure Control Plan – Service Departments

The department will establish, implement and maintain an effective infectious disease Exposure Control Plan (Plan). The Plan will include the

- designation of person(s) responsible for the Plan implementation,
- a list of job classifications in which employees have occupational exposure,
- a list of high hazard procedures,
- a list of tasks or assignments requiring personal or respiratory protection,
- the methods of implementation of the control measures required by the standard,
- surge procedures,
- source control measures,
- procedures for temporary isolation and transfer or referral for AirID cases,

Chapter 25 – Aerosol Transmissible Diseases

- medical surveillance including the provision of vaccinations,
- procedures for exposure incidents,
- procedures for communication with employees and other employers regarding the infectious status of a patient and regarding exposure incidents,
- procedures to ensure an adequate supply of necessary equipment,
- procedures for providing employee training,
- recordkeeping, and
- procedures for involving employees in the review of the Plan.

The Plan must be reviewed at least annually and made available to employees, and their representatives.

25.2.3.3 Engineering, Work Practices and Personal Protective Equipment – Service Departments

The department will use feasible engineering and work practice controls to minimize employee exposures to ATPs and to provide personal protective equipment, which for airborne infectious pathogens would include respirators, where necessary.

The plan will require departments to implement, as applicable, the specific engineering controls and work practices recommended by the CDC, as described in the Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings, 2007, for diseases requiring droplet precautions.

For diseases requiring airborne infection isolation, the measures described in Guidelines for Preventing the Transmission of Mycobacterium tuberculosis in Health-Care Settings, 2005, CDC are required.

Fixed establishments and field operations to the extent that it is feasible, are required to implement written source control procedures.

Chapter 25 – Aerosol Transmissible Diseases

Departments will also be required to develop control measures for employees who are exposed to infectious cases while transporting them in vehicles.

It will also require departments to implement source control procedures, which in fixed health care facilities and correctional facilities must incorporate the recommendations in Respiratory Hygiene/Cough Etiquette in Health Care Settings, CDC, 2004. In other settings, these requirements must be incorporated to the extent feasible.

This section will also require departments to develop and implement engineering and work practice controls to protect employees who operate, use, or maintain vehicles used to transport ATD cases or suspected cases.

The department will develop and implement written decontamination procedures for work areas, vehicles and equipment.

The department will inform contractors who provide temporary or contract employees about infectious disease hazards.

Engineering controls are used in workplaces that admit or provide medical services to AirID cases or suspected cases, except where home health or home-based hospice services are provided.

The department will establish requirements for transferring AirID cases and suspected cases to All rooms or areas. Exceptions are provided for situations in which a transfer will be detrimental to the patient's condition, or where these facilities are not feasible for persons infected with novel or unknown pathogens.

High hazard procedures are conducted in All rooms or areas, unless no such area is available and it is necessary to perform the procedure.

The department will establish airborne infection isolation rooms (AIIR) or areas. These standards are consistent with Title 24, Part 4, Chapter 4, Section 417 et seq. which contain the design and construction requirements for AIIR in hospitals. AIIR which are constructed in accordance with those provisions are

considered to be in compliance. Specific requirements for All ventilation systems and for the inspection, testing, maintenance, and verification of control measures in isolation rooms or areas are referenced to the CDC recommendations in the Guidelines for Preventing the Transmission of Mycobacterium tuberculosis in Health-Care Settings, 2005. This also includes ventilation of All rooms or areas after the case or suspected case has vacated the room.

Annual inspection is required for engineering controls, and departments must comply in the construction, installation, inspection, operation, testing and maintenance of All ventilation systems standards.

25.2.3.4 Respiratory Protection - - Service Departments

The Department will establish requirements for the use of respiratory protection for aerosol transmissible diseases. The respirators are approved by the National Institute for Occupational Safety and Health (NIOSH) for the purpose for which they are used. The Department will establish and implement a written respiratory protection program.

Situations in which respirator use is required to protect employees against airborne infectious pathogens are specified. The circumstances requiring respirator use are when an employee:

- enters an All room or area in use for airborne infection isolation;
- is present during the performance of procedures or services for an AirID case or suspected case;
- transports an AirID case or suspected case either in an enclosed vehicle or within a facility, when that person is not masked;
- repairs, replaces or maintains air systems or equipment that may contain or generate ATPs;
- is working in an area occupied by an AirID case or suspected case and during decontamination procedures after the person has left;
- is working in a residence where an AirID case or suspected case is known to be present;

Chapter 25 – Aerosol Transmissible Diseases

- is present during the performance of aerosol generating procedures on cadavers that are suspected of, or confirmed as, being infected with airborne infectious diseases; or
- is performing a task for which the biosafety plan or exposure control plan requires the use of respirators.

25.2.3.5 Medical Surveillance - – Service Departments

The Department will provide medical surveillance for ATDs and laboratory acquired infections in accordance with recommendations from the CDC or CDPH for the type of work setting. The surveillance includes vaccinations, examinations, evaluations, determinations, and medical management and follow-up. All employees with occupational exposure are provided with surveillance for LTBI. Surveillance must be in accordance with CDC and CDPH recommendations.

Tests for LTBI are conducted initially, and thereafter at least annually, or more frequently. Employees who experience a TB conversion will be referred to a PLHCP (Physician or Licensed Health Care Provider) for evaluation and will require that the PLHCP report suspect or confirmed infectious TB to the local health officer. The PLHCP will also be required to make a recommendation regarding precautionary removal if the person has suspected or diagnosed infectious tuberculosis (see discussion below). TB conversions are recorded on the Log 300. Departments will investigate the circumstances of conversions, unless the conversion is determined not to be occupational.

25.2.3.6 Vaccinations – Service Departments

The Department will provide all vaccine doses recommended by the CDPH to all susceptible health care workers and at no cost to the employee.

The vaccinations are

- measles, mumps and rubella
(often given as a combination vaccine MMR),
- tetanus,

Chapter 25 – Aerosol Transmissible Diseases

- diphtheria and
- acellular pertussis (Tdap), and
- varicella zoster.

Vaccinations are required to be provided within 10 working days of initial assignment. Newly recommended vaccinations are required to be provided within 120 days of the issuance of the new recommendation, unless the vaccine is not available. Employees may decline to receive a vaccination.

25.2.3.7 Exposure Incident Procedures

Procedures are established that Departments will follow in the event of an exposure incident. An exposure incident is defined as an exposure to an individual with a diagnosed or suspected, reportable ATD (RATD) when the exposure occurs without the control measures required by this section and where the circumstances of the exposure makes transmission sufficiently likely that an employee should be evaluated by a PLHCP. A laboratory exposure incident is one in which an employee has been exposed to aerosols containing ATPs or ATPs-L without the protection required by this section.

25.2.3.8 Seasonal Influenza

The Department will provide the seasonal influenza vaccine at no cost to the employee and will require that the Department ensure that employees who decline the vaccine sign the declination statement. Seasonal influenza vaccine need only be provided during the period designated by the CDC for administration of this vaccine.

25.2.3.9 Employee Training

The Department will provide required training. Training is required at the time of initial assignment and at least annually. Additional training is required when the exposure circumstances or controls change.

25.2.3.10 Recordkeeping

The Department will establish and maintain recordkeeping requirements.

25.3 Roles and Responsibilities

25.3.1 Aerosol Transmissible Diseases Program Manager

The Countywide administration of the Aerosol Transmissible Diseases Program will be the responsibility of the Occupational Safety and Environmental Compliance Division (OSEC).

Responsibilities:

- Oversees the Countywide Aerosol Transmissible Disease (ATD) program.
- Maintains central records for the administration of the program. (i.e. training, annual reviews, OSHA Log 300).
- Acts as liaison with all affected Departments.

25.3.2 Agency/Department ATD Coordinator

Acts as liaison between his/her department and OSEC. The department head will appoint this position.

Responsibilities:

- Coordinates or delegates ATD training for the agency or department.
- Confirms that ATD personnel attend training classes.
- Confirms that the Communicable Disease Control Plans are reviewed annually.
- Confirms that medical surveillance and vaccination schedules are maintained.

25.3.3 Employees

Employees affected by this plan should be conscientious and follow necessary safe work practices.

Responsibilities:

- Attend all necessary training.
- Wear the prescribed personal protective equipment.
- Follow safe work practices.
- Participate in the vaccination program.

25.4 Program Reviews.

Annual program reviews shall be performed by, or by the direction of, the Agency/Department Aerosol Transmissible Disease Coordinator using the ATD Program Review check list. OSEC will maintain the ATD program review records.

The following items need to be addressed by the designated person performing the program review:

- Ensure that written source control procedures are in practice and accessible to affected employees.
- Determine if there has been a change in the level and type of medical treatment provided by the referring Departments and by the Departments who provide services to patients with airborne infectious diseases or departments who perform aerosolizing procedures on cadavers which may be infected with airborne infectious pathogens.
- Ensure that affected employees receive the necessary initial training and annual refresher training.
- Ensure that affected employees have been offered all of the prescribed vaccinations and booster vaccinations.
- Ensure that affected employees have been offered and participate in medical surveillance examinations.

- Ensure that affected employees have access to an adequate supply of personal protective equipment.
- Ensure that engineered control methods are in proper working condition in accordance with building code requirements for All ventilation systems in hospitals.

25.5 Reporting Requirements for ATD Exposure Incidents

An exposure incident is an event in which all of the following have occurred:

- An employee has been exposed to an individual who is a case or suspected case of a reportable ATD, or to a work area or to equipment that is reasonably expected to contain ATPs associated with a reportable ATD; and
- The exposure occurred without the benefit of applicable exposure controls required by this section, and
- It reasonably appears from the circumstances of the exposure that transmission of disease is sufficiently likely to require medical evaluation.

A health care provider who determines that a person is a Reportable ATD case or suspected case shall report the case to the local health officer.

Each Department who becomes aware that his or her employees may have been exposed to an Reportable ATD case or suspected case, or to an exposure incident involving a laboratory exposure shall do all of the following:

- Within a timeframe that is reasonable for the specific disease but in no case later than 72 hours following the Department's report to the local health officer or the receipt of notification from another employer or the local health officer, conduct an analysis of the exposure scenario to determine which employees had significant exposures.
- Within a timeframe that is reasonable for the specific disease, but in no case later than 96 hours of becoming aware of the potential exposure,

Chapter 25 – Aerosol Transmissible Diseases

notify employees who had significant exposures of the date, time, and nature of the exposure.

- As soon as feasible, provide post-exposure medical evaluation to all employees who had a significant exposure.
- Obtain from the PLHCP a recommendation regarding precautionary removal and a written opinion.
- Determine, to the extent that the information is available in the Department's records, whether employees of any other employers may have been exposed to the case or material. The Department shall notify these other employers within a time frame that is reasonable for the specific disease, but in no case later than 72 hours of becoming aware of the exposure incident of the nature, date, and time of the exposure, and shall provide the contact information for the diagnosing PLHCP. The notifying Department shall not provide the identity of the source patient to other employers.

25.6 Applicable Regulations

California Code of Regulations, Title 8, Division 1, Chapter 4, Subchapter 7, Article 109, Section 5199, Aerosol Transmissible Diseases

Contents

- (a) Scope and Application
- (b) Definitions
- (c) Referring Employers
- (d) Aerosol Transmissible Diseases Exposure Control Plan
- (e) Engineering and Work Practice Controls and Personal Protective Equipment
- (f) Laboratories
- (g) Respiratory Protection
- (h) Medical Services
- (i) Training
- (j) Recordkeeping

Notes:

Referring Departments must comply with (a), (c) and (j).

Laboratories must comply with sections (a), (f), (i), and (j).

Patient Services Departments must comply with sections (a), (d), (e), (f), (g), (h), (i), and (j).

25.7 Appendices

25.7.1 Appendix A:

Aerosol Transmissible Diseases/Pathogens (Mandatory)

This appendix contains a list of diseases and pathogens which are to be considered aerosol transmissible pathogens or diseases. Departments are required to provide the protections according to whether the disease or pathogen requires airborne infection isolation or droplet precautions as indicated by the two lists below.

Diseases/Pathogens Requiring Airborne Infection Isolation

Aerosolizable spore-containing powder or other substance that is capable of causing serious human disease, e.g. Anthrax/*Bacillus anthracis*
Avian influenza/Avian influenza A viruses (strains capable of causing serious disease in humans)
Varicella disease (chickenpox, shingles)/Varicella zoster and Herpes zoster viruses, disseminated disease in any patient. Localized disease in immunocompromised patient until disseminated infection ruled out
Measles (rubeola)/Measles virus
Monkeypox/Monkeypox virus
Novel or unknown pathogens
Severe acute respiratory syndrome (SARS)
Smallpox (variola)/Variola virus
Tuberculosis (TB)/*Mycobacterium tuberculosis* -- Extrapulmonary, draining lesion; Pulmonary or laryngeal disease, confirmed; Pulmonary or laryngeal disease, suspected
Any other disease for which public health guidelines recommend airborne infection isolation

Diseases/Pathogens Requiring Droplet Precautions

Diphtheria pharyngeal
Epiglottitis, due to *Haemophilus influenzae* type b
Haemophilus influenzae Serotype b (Hib) disease/*Haemophilus influenzae* serotype b -- Infants and children
Influenza, human (typical seasonal variations)/influenza viruses
Meningitis
 Haemophilus influenzae, type b known or suspected
 Neisseria meningitidis (meningococcal) known or suspected
Meningococcal disease sepsis, pneumonia (see also meningitis)
Mumps (infectious parotitis)/Mumps virus
Mycoplasmal pneumonia
Parvovirus B19 infection (erythema infectiosum)
Pertussis (whooping cough)
Pharyngitis in infants and young children/Adenovirus, Orthomyxoviridae, Epstein-Barr virus, Herpes simplex virus,
Pneumonia
 Adenovirus
 Haemophilus influenzae Serotype b, infants and children
 Meningococcal
 Mycoplasma, primary atypical
 Streptococcus Group A
Pneumonic plague/*Yersinia pestis*
Rubella virus infection (German measles)/Rubella virus
Severe acute respiratory syndrome (SARS)
Streptococcal disease (group A streptococcus)
 Skin, wound or burn, Major
 Pharyngitis in infants and young children

Chapter 25 – Aerosol Transmissible Diseases

Pneumonia
Scarlet fever in infants and young children
Serious invasive disease

Viral hemorrhagic fevers due to Lassa, Ebola, Marburg, Crimean-Congo fever viruses (airborne infection isolation and respirator use may be required for aerosol-generating procedures)
Any other disease for which public health guidelines recommend droplet precautions

25.7.2 Appendix B:

Aerosol Transmissible Pathogens – Laboratory (Mandatory)

This appendix contains a list of agents that, when reasonably anticipated to be present, require a laboratory to provide protection for laboratory operations, by performing a risk assessment and establishing a biosafety plan that includes appropriate control measures.

- Adenovirus (in clinical specimens and in cultures or other materials derived from clinical specimens)
- Arboviruses, unless identified individually elsewhere in this list (large quantities or high concentrations* of arboviruses for which CDC recommends BSL-2, e.g., dengue virus; potentially infectious clinical materials, infected tissue cultures, animals, or arthropods involving arboviruses for which CDC recommends BSL-3 or higher, e.g., Japanese encephalitis, West Nile virus, Yellow Fever)
- Arenaviruses (large quantities or high concentrations of arenaviruses for which CDC recommends BSL-2, e.g., Pichinde virus; potentially infectious clinical materials, infected tissue cultures, animals, or arthropods involving arenaviruses for which CDC recommends BSL-3 or higher, e.g., Flexal virus)
- Bacillus anthracis* (activities with high potential for aerosol production**, large quantities or high concentrations, screening environmental samples from *b. anthracis* -contaminated locations)
- Blastomyces dermatitidis* (sporulating mold-form cultures, processing environmental materials known or likely to contain infectious conidia)
- Bordetella pertussis* (aerosol generation, or large quantities or high concentrations)
- Brucella abortus*, *B. canis*, *B. "maris"*, *B. melitensis*, *B. suis* (cultures, experimental animal studies, products of conception containing or believed to contain pathogenic *Brucella* spp.)
- Burkholderia mallei*, *B. pseudomallei* (potential for aerosol or droplet exposure, handling infected animals, large quantities or high concentrations)
- Cercopithecine herpesvirus (see Herpesvirus simiae)
- Chlamydia pneumoniae* (activities with high potential for droplet or aerosol production, large quantities or high concentrations)
- Chlamydia psittaci* (activities with high potential for droplet or aerosol production, large quantities or high concentrations, non-avian strains, infected caged birds, necropsy of infected birds and diagnostic examination of tissues or cultures known to contain or be potentially infected with *C. psittaci* strains of avian origin)
- Chlamydia trachomatis* (activities with high potential for droplet or aerosol production, large quantities or high concentrations, cultures of lymphogranuloma venereum (LGV) serovars, specimens known or likely to contain *C. trachomatis*)
- Clostridium botulinum* (activities with high potential for aerosol or droplet production, large quantities or high concentrations)
- Coccidioides immitis*, *C. posadasii* (sporulating cultures, processing environmental materials known or likely to contain infectious arthroconidia, experimental animal studies involving exposure by the intranasal or pulmonary route)
- Corynebacterium diphtheriae*
- Coxiella burnetti* (inoculation, incubation, and harvesting of embryonated eggs or cell cultures; experimental animal studies, animal studies with infected arthropods, necropsy of infected animals, handling infected tissues)
- Crimean-Congo haemorrhagic fever virus
- Cytomegalovirus, human (viral production, purification, or concentration)
- Eastern equine encephalomyelitis virus (EEEV) (clinical materials, infectious cultures, infected animals or arthropods)
- Ebola virus

Chapter 25 – Aerosol Transmissible Diseases

Epstein-Barr virus (viral production, purification, or concentration)
Escherichia coli, shiga toxin-producing only (aerosol generation or high splash potential)
Flexal virus
Francisella tularensis (suspect cultures—including preparatory work for automated identification systems, experimental animal studies, necropsy of infected animals, high concentrations of reduced-virulence strains)
Guanarito virus
Haemophilus influenzae, type b
Hantaviruses (serum or tissue from potentially infected rodents, potentially infected tissues, large quantities or high concentrations, cell cultures, experimental rodent studies)
Helicobacter pylori (homogenizing or vortexing gastric specimens)
Hemorrhagic fever -- specimens from cases thought to be due to dengue or yellow fever viruses or which originate from areas in which communicable hemorrhagic fever are reasonably anticipated to be present
Hendra virus
Hepatitis B, C, and D viruses (activities with high potential for droplet or aerosol generation, large quantities or high concentrations of infectious materials)
Herpes simplex virus 1 and 2
Herpesvirus simiae (B-virus) (consider for any material suspected to contain virus, mandatory for any material known to contain virus, propagation for diagnosis, cultures)
Histoplasma capsulatum (sporulating mold-form cultures, propagating environmental materials known or likely to contain infectious conidia)
Human herpesviruses 6A, 6B, 7, and 8 (viral production, purification, or concentration)
Influenza virus, non-contemporary human (H2N2) strains, 1918 influenza strain, highly pathogenic avian influenza (HPAI) (large animals infected with 1918 strain and animals infected with HPAI strains in ABSL-3 facilities, loose-housed animals infected with HPAI strains in BSL-3-Ag facilities)
Influenza virus, H5N1 - human, avian
Junin virus
Kyasanur forest disease virus
Lassa fever virus
Legionella pneumophila, other legionella-like agents (aerosol generation, large quantities or high concentrations)
Lymphocytic choriomeningitis virus (LCMV) (field isolates and clinical materials from human cases, activities with high potential for aerosol generation, large quantities or high concentrations, strains lethal to nonhuman primates, infected transplantable tumors, infected hamsters)
Machupo virus
Marburg virus
Measles virus
Monkeypox virus (experimentally or naturally infected animals)
Mumps virus
Mycobacterium tuberculosis complex (*M. africanum*, *M. bovis*, *M. caprae*, *M. microti*, *M. pinnipedii*, *M. tuberculosis*) (aerosol-generating activities with clinical specimens, cultures, experimental animal studies with infected nonhuman primates)
Mycobacteria spp. other than those in the *M. tuberculosis* complex and *M. leprae* (aerosol generation)
Mycoplasma pneumoniae
Neisseria gonorrhoeae (large quantities or high concentrations, consider for aerosol or droplet generation)
Neisseria meningitidis (activities with high potential for droplet or aerosol production, large quantities or high concentrations)
Nipah virus
Omsk hemorrhagic fever virus
Parvovirus B19
Prions (bovine spongiform encephalopathy prions, only when supported by a risk assessment)
Rabies virus, and related lyssaviruses (activities with high potential for droplet or aerosol production, large quantities or high concentrations)

Chapter 25 – Aerosol Transmissible Diseases

Retroviruses, including Human and Simian Immunodeficiency viruses (HIV and SIV) (activities with high potential for aerosol or droplet production, large quantities or high concentrations)
Rickettsia prowazekii, *Orientia (Rickettsia) tsutsuagmushi*, *R. typhi (R. mooseri)*, Spotted Fever Group agents (*R. akari*, *R. australis*, *R. conorii*, *R. japonicum*, *R. rickettsii*, and *R. siberica*) (known or potentially infectious materials; inoculation, incubation, and harvesting of embryonated eggs or cell cultures; experimental animal studies with infected arthropods)

Rift valley fever virus (RVFV)

Rubella virus

Sabia virus

Salmonella spp. other than *S. typhi* (aerosol generation or high splash potential)

Salmonella typhi (activities with significant potential for aerosol generation, large quantities)

SARS coronavirus (untreated specimens, cell cultures, experimental animal studies)

Shigella spp. (aerosol generation or high splash potential)

Streptococcus spp., group A

Tick-borne encephalitis viruses (Central European tick-borne encephalitis, Far Eastern tick-borne encephalitis, Russian spring and summer encephalitis)

Vaccinia virus

Varicella zoster virus

Variola major virus (Smallpox virus)

Variola minor virus (Alastrim)

Venezuelan equine encephalitis virus (VEEV) (clinical materials, infectious cultures, infected animals or arthropods)

West Nile virus (WNV) (dissection of field-collected dead birds, cultures, experimental animal and vector studies)

Western equine encephalitis virus (WEEV) (clinical materials, infectious cultures, infected animals or arthropods)

Yersinia pestis (antibiotic resistant strains, activities with high potential for droplet or aerosol production, large quantities or high concentrations, infected arthropods, potentially infected animals)

* 'Large quantities or high concentrations' refers to volumes or concentrations considerably in excess of those typically used for identification and typing activities. A risk assessment must be performed to determine if the quantity or concentration to be used carries an increased risk, and would therefore require aerosol control.

** 'activities with high potential for aerosol generation' include centrifugation

25.7.3 Appendix C:

**Aerosol Transmissible Disease Vaccination
Recommendations for Susceptible Health Care Workers
(Mandatory)**

| Vaccine | Schedule |
|---|-------------------------------------|
| Influenza | One dose annually |
| Measles | Two doses |
| Mumps | Two doses |
| Rubella | One dose |
| Tetanus, Diphtheria, and Acellular Pertussis (Tdap) | One dose, booster as recommended |
| Varicella-zoster (VZV) | Two doses |

Source: California Department of Public Health, Immunization Branch
Immunity should be determined in consultation with *Epidemiology and Prevention of
Vaccine-Preventable Diseases*.