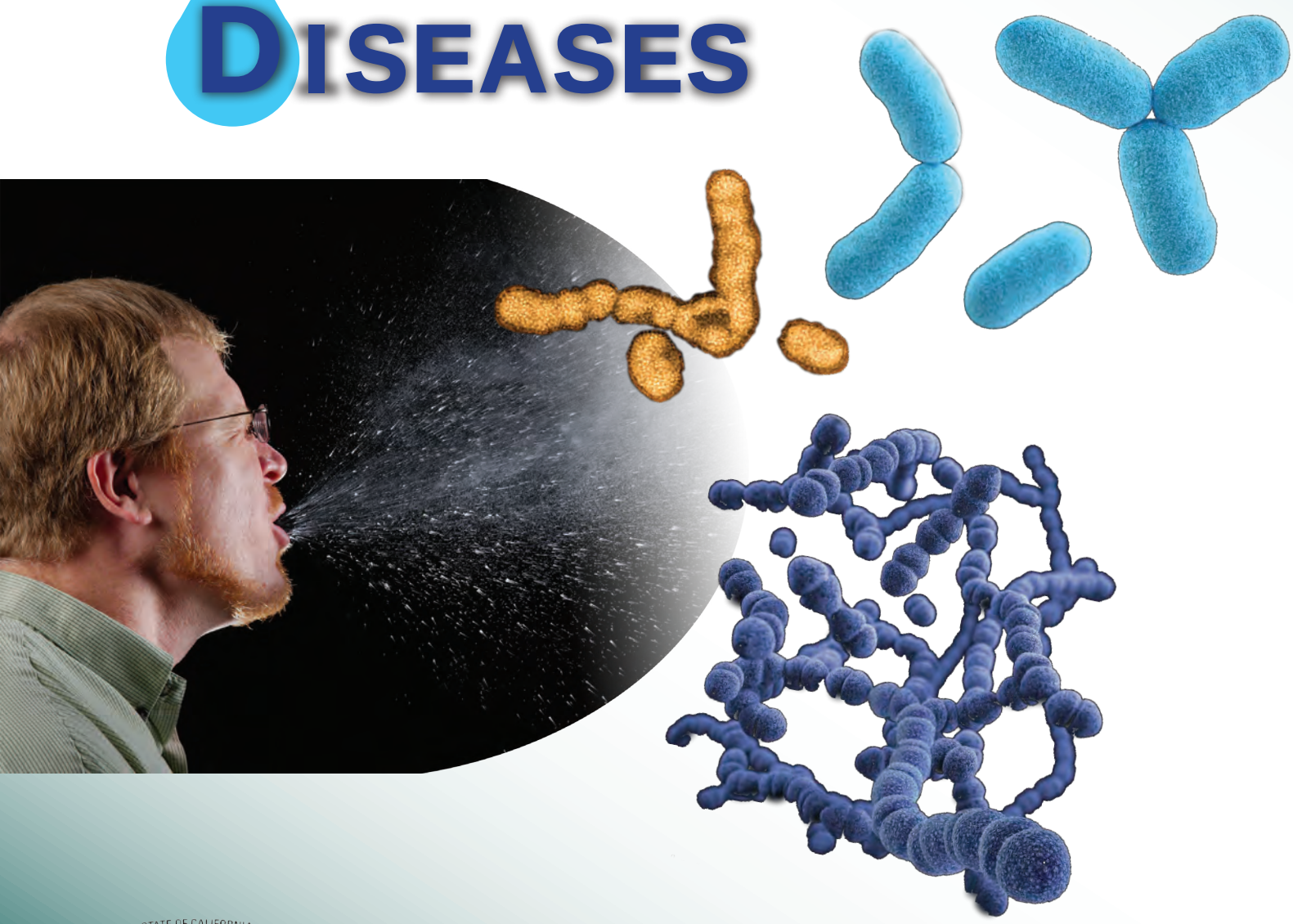
The California Workplace Guide to

Aerosol Transmissible Diseases



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CAL OSHA
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Publications Unit

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The California Workplace Guide to Aerosol Transmissible Diseases

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Cover images:

A man sneezing with droplets visible
Credit: Centers for Disease Control and Prevention/Brian Judd

A transmission electron microscopic (TEM) image of a grouping of H1N1 influenza particles
Credit: National Institute of Allergy and Infectious Diseases (NIAID)

A 3D computer-generated image of *Corynebacterium diphtheriae* bacteria based on scanning electron microscopic imagery
Credit: CDC/Sarah Bailey Cutchin

A 3D computer-generated image of a group of *Steptococcus pneumoniae* bacteria based on scanning electron microscopic imagery
Credit: CDC/Sarah Bailey Cutchin

Abbreviations and Acronyms Used in This Publication

ACH – Air changes per hour
AII – Airborne infection isolation
AIIR – Airborne infection isolation room or area
AirID – Airborne infectious disease
AirIP - Airborne infectious pathogen
ATD – Aerosol transmissible disease
ATP – Aerosol transmissible pathogen
ATP-L - Aerosol transmissible pathogen - laboratory
BMBL – Biosafety in Microbiological and Biomedical Laboratories
BSL – Biosafety level
BSP – Biosafety plan
CCR – California Code of Regulations
CDPH – California Department of Public Health
CDC – Centers for Disease Control and Prevention
ECP – Exposure Control Plan
HEPA – High-efficiency particulate air (filtration)
LHD – Local health department
LHO – Local health officer
PAPR – Powered air-purifying respirator
PLHCP – Physician or other licensed health care professional
RATD – Reportable aerosol transmissible disease
SARS – Severe acute respiratory syndrome
SCBA – Self-contained breathing apparatus
TB - Tuberculosis

About This Publication

California workplace safety laws require certain employers with employees exposed to aerosol transmissible diseases (ATD) to have effective written safety plans, provide protective equipment as needed, and train employees on safety procedures. This publication is designed to assist employers with meeting the requirements of the Cal/OSHA Aerosol Transmissible Diseases standard (California Code of Regulations, title 8, section **5199**) to reduce the risk of ATD infection to their employees.

Examples of ATDs include tuberculosis (TB), influenza, and pertussis (whooping cough).

The following topics are covered:

- The **introduction** explains the categories of aerosol transmissible diseases covered under this standard, the types of employers who must comply, and the types of employers who are conditionally exempt.
- The **"Referring Employers"** section describes the conditions that employers must meet in order to be classified as a referring employer and specifies the requirements they must comply with instead of the entire ATD regulation.
- The **"Written Programs and Procedures"** section is a brief description of the written programs required of the different types of employers, including the requirements of an ATD Exposure Control Plan.
- The **"Engineering and Work Practice Controls"** section discusses different kinds of engineering and work practice controls that are required to protect employees against infection, including airborne infection isolation rooms or areas, and the maintenance requirements of such controls.
- The **"Laboratories"** section discusses the requirements for laboratories where employees conduct procedures with materials that contain or may contain aerosol transmissible pathogens-laboratory, including the requirements of a Biosafety Plan.
- The **"Respiratory Protection"** section describes different kinds of respirators and considerations when selecting respirators for protection against ATD exposures. This section also summarizes a few requirements of the Cal/OSHA Respiratory Protection standard.
- The **"Medical Services"** section explains the requirements for different medical services the employer must provide, including vaccinations, annual TB screening, and post-exposure evaluation and follow-up.
- The **"Training"** section describes the requirements for training employees who have occupational exposure to ATDs.
- The **"Recordkeeping"** section outlines the recordkeeping requirements of the ATD standard.
- The **Quick Summary Sheets** list the ATD regulation requirements for six types of employers so they may quickly and easily see everything they need to do to comply.
- The **"Resources"** section lists all the resources referenced in this publication.

Green text boxes throughout this document contain the URLs of hyperlinks introduced on that page.

Blue text boxes throughout this document contain notes.

This document is not meant to be either a substitute for or a legal interpretation of the occupational safety and health regulations. Readers must refer directly to title 8 of the California Code of Regulations for details, exceptions, and other requirements that may apply to their operations. Please refer to the full **regulation** *at www.dir.ca.gov/Title8/5199.html.*

Photo credit: CDC/Brian Judd

Introduction

The Cal/OSHA Aerosol Transmissible Diseases (ATD) standard was adopted in 2009 to protect employees who are at increased risk of contracting certain airborne infections due to their work activities. The standard is codified in title 8 of the California Code of Regulations, section **5199**.

What is an Aerosol Transmissible Disease under this regulation?

Section 5199 defines an aerosol transmissible disease as a disease for which droplet or airborne precautions are required, as listed in **Appendix A**, which has been reproduced on the next page. These diseases can be transmitted by infectious particles or droplets through inhalation or direct contact with the mucous membranes of the eyes or respiratory tract. The disease-causing aerosols covered by this regulation are pathogens, such as bacteria and viruses.

The ATD standard identifies three categories of aerosol transmissible diseases/pathogens:

- **Airborne infectious diseases (AirID) / airborne infectious pathogens (AirIP)** are diseases, such as tuberculosis (TB), that are transmitted through the air. They are listed in Appendix A as requiring airborne infection isolation (AII). Airborne precautions include the use of special engineering controls and respiratory protection. AirID/AirIP include novel and unknown pathogens. Section 5199 also requires employers to follow AII requirements for any disease or pathogen for which the California Department of Public Health (CDPH) or local health officer (LHO) recommends AII.
- **ATDs / Aerosol transmissible pathogens (ATPs) requiring droplet precautions** are diseases, such as mumps and pertussis, that transmit by infectious particles or droplets coming into contact with the eyes, upper respiratory tract, or mucous membranes of the nose or mouth. Droplet precautions include protecting the eyes and mucous membranes from contact with shorter range droplets. Section 5199 also requires employers to use droplet precautions for a disease or pathogen if the CDPH or LHO recommends them.
- **Aerosol transmissible pathogens – laboratory (ATP-L)** are pathogens that may be spread through laboratory-generated aerosols and include pathogens listed in **Appendix D**, pathogens for which Biosafety in Microbiological and Biomedical Laboratories (BMBL) recommends biosafety level 3 (BSL 3) or above, pathogens for which the biosafety officer recommends BSL 3 or above, and novel or unknown pathogens.

Note: Some diseases or pathogens, such as SARS and SARS coronavirus, appear on more than one list. For exposures to such pathogens, both airborne and droplet precautions must be used.

8 CCR 5199: www.dir.ca.gov/Title8/5199.html
8 CCR 5199, Appendix A: www.dir.ca.gov/Title8/5199a.html
8 CCR 5199, Appendix D: www.dir.ca.gov/Title8/5199d.html

Section 5199, 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 for the purpose of Section 5199. Employers are required to provide the protections required by Section 5199 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)/Varioloa 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
  - 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

What employers does the Aerosol Transmissible Diseases regulation cover?

The standard covers many different kinds of employers, not only health care and health-related facilities. The extent that employers are covered depends on the nature of occupational exposure their employees have.

Note: *Occupational exposure* is defined in this regulation as "exposure from work activity or working conditions that is reasonably anticipated to create an elevated risk of contracting any disease caused by ATPs or ATPs-L if protective measures are not in place." Risk is considered elevated if it is higher than that of employees working in public contact operations that are not covered under the scope of this standard, such as retail clerks or bus drivers.

Covered employers must conduct an exposure assessment to determine which of their employees have occupational exposure. In addition to full-time employees, they must consider part-time employees, temporary employees, and paid students who may be reasonably anticipated to have occupational exposure.

Employers in the following categories are presumed to have employees with some extent of occupational exposure:

- Health care facilities, services, or operations:
  - Hospitals
  - Skilled nursing facilities
  - clinics, medical offices, and other outpatient medical facilities
  - Facilities where high hazard procedures, as defined in subsection (b), are performed;
  - Home health care
  - Long term health care facilities and hospices
  - Medical outreach services
  - Paramedic and emergency medical services including these services when provided by firefighters and other emergency responders
  - Medical transport
- Facilities, services, or operations that are designated to receive persons arriving from the scene of an uncontrolled release of hazardous substances involving biological agents, as defined in 8 CCR **5192**, Hazardous Waste Operations and Emergency Response;
- Police services provided during transport or detention of persons reasonably anticipated to be cases or suspected cases of aerosol transmissible diseases, and police services provided in conjunction with health care or public health operations;
- Public health services, such as communicable disease contact tracing or screening programs that are reasonably anticipated to be provided to cases or suspected cases of aerosol transmissible diseases, and public health services rendered in health care facilities or in connection with the provision of health care;
- The following facilities, services or operations that are identified as being at increased risk for transmission of ATD infection:
  - Correctional facilities and other facilities that house inmates or detainees;
  - Homeless shelters;
  - Drug treatment programs;
- Facilities, services or operations that perform aerosol-generating procedures on cadavers such as pathology laboratories, medical examiners' facilities, coroners' offices, and mortuaries;
- Laboratories that perform procedures with materials that contain or are reasonably anticipated to contain certain aerosol transmissible pathogens (called aerosol transmissible pathogen – laboratory, or ATP-L) or zoonotic aerosol transmissible pathogens as defined in 8 CCR **5199.1**;
- Any other facility, service, or operation that has been determined in writing by the Chief of the Division of Occupational Safety and Health through the issuance of an Order to Take Special Action, in accordance with 8 CCR **332.3**, to require application of this standard as a measure to protect employees.*

* Cal/OSHA is authorized to issue an Order to Take Special Action to an employer not normally covered by section 5199 (or parts of section 5199) to require the employer to comply with all parts of section 5199 when necessary to protect employees. For example, a local health department (LHD) may determine during the investigation of a TB case that transmission may have occurred or may be occurring in a retail establishment. In that case, after conducting an investigation, Cal/OSHA would require the employer, which is not normally within the scope of the ATD standard, to provide TB assessments and medical follow-up to employees as recommended by the LHD.

8 CCR 5192:
www.dir.ca.gov/Title8/5192.html

8 CCR 5199.1:
www.dir.ca.gov/Title8/5199-1.html

8 CCR 332.3: www.dir.ca.gov/Title8/332_3.html

- Maintenance, renovation, service, or repair operations involving air handling systems or equipment or building areas that may reasonably be anticipated to be contaminated with aerosol transmissible pathogens (ATPs) or ATPs-L, including
  - Areas in which airborne infectious disease (AirID) cases and suspected cases are treated or housed;
  - Air handling systems that serve airborne infection isolation rooms or areas (AIIRs); and
  - Equipment such as laboratory hoods, biosafety cabinets, and ventilation systems that are used to contain infectious aerosols.

Note: Employers with employees who conduct hazardous waste and emergency response operations, as defined in 8 CCR **5192**, must comply with this standard, if applicable, as well as section 5192.

Note: Occupational exposure to animals infected with zoonotic aerosol transmissible diseases (diseases that humans acquire from exposure to infected animals or animal waste) are covered under section 5199.1. However, laboratories that handle materials containing zoonotic aerosol transmissible pathogens are covered under section **5199**. An employer where both types of exposures exist falls under both sections 5199 and 5199.1.

What employers are required to comply with only certain parts of the regulation?

Referring Employers

Referring employers only have to comply with subsection (c) and all the subsections referenced in that subsection, including subsections (h) and (j). They must also comply with subsection (g), if applicable.

Please see the **"Referring Employers" section of this publication on page 7** for the conditions employers must meet to be considered referring employers and the written procedures they must implement.

Laboratories

Laboratories are covered under section **5199** if employees perform procedures capable of aerosolizing aerosol transmissible pathogens-laboratory (ATPs-L) or zoonotic ATPs, as defined in section **5199.1**. Their requirements depend on the types of exposures their employees have to ATPs:

- Laboratories where employees do not have direct contact with confirmed or suspected ATD cases or with potentially infected cadavers only have to comply with subsections (a), (f), (i), and (j).
- Laboratories where employees do have direct contact with confirmed or suspected ATD cases or with potentially infected cadavers must additionally comply with the applicable parts of the full standard.

Please see the **"Laboratories" section of this publication on page 24** for further explanation.

What employers are not covered under this regulation?

Certain types of employers that may seem like they would be covered are actually not covered, while others are conditionally exempt, meaning that they are not covered if they meet specific conditions.

Facilities such as residential care facilities where employees provide social services but no medical care are not covered under section **5199**. However, these employers are still required to identify, evaluate, and correct hazards in their workplaces using their Injury and Illness Prevention Program, in accordance with 8 CCR **3203**.

Outpatient dental clinics and outpatient medical specialty practices are conditionally exempt from the ATD standard as long as they comply with section 5199(a)(2). If they do not meet all the relevant conditions of subsection (a)(2), then they are either covered under the full standard or as referring employers, as applicable.

Outpatient Dental Clinics

Outpatient dental practices are not required to comply with this regulation if they meet these four conditions:

1. Dental procedures are not performed on patients identified to them as ATD cases or suspected ATD cases.
2. The employer establishes and implements a written procedure consistent with current **guidelines from the Centers for Disease Control and Prevention (CDC)** to screen patients prior to performing any dental procedure on them to determine the risk of exposure to ATD from that patient.
3. The employer trains their employees on the screening procedure.
4. Aerosol-generating dental procedures are not performed on patients who have been identified in the screening process as being a possible ATD exposure risk unless a licensed physician determines that the patient does not currently have an ATD.

Outpatient Medical Specialty Practices

Outpatient medical specialty practices, such as dermatology, orthopedic, and most psychiatric practices, that do not diagnose or treat patients with ATDs are not required to comply with this regulation as long as they meet these three conditions:

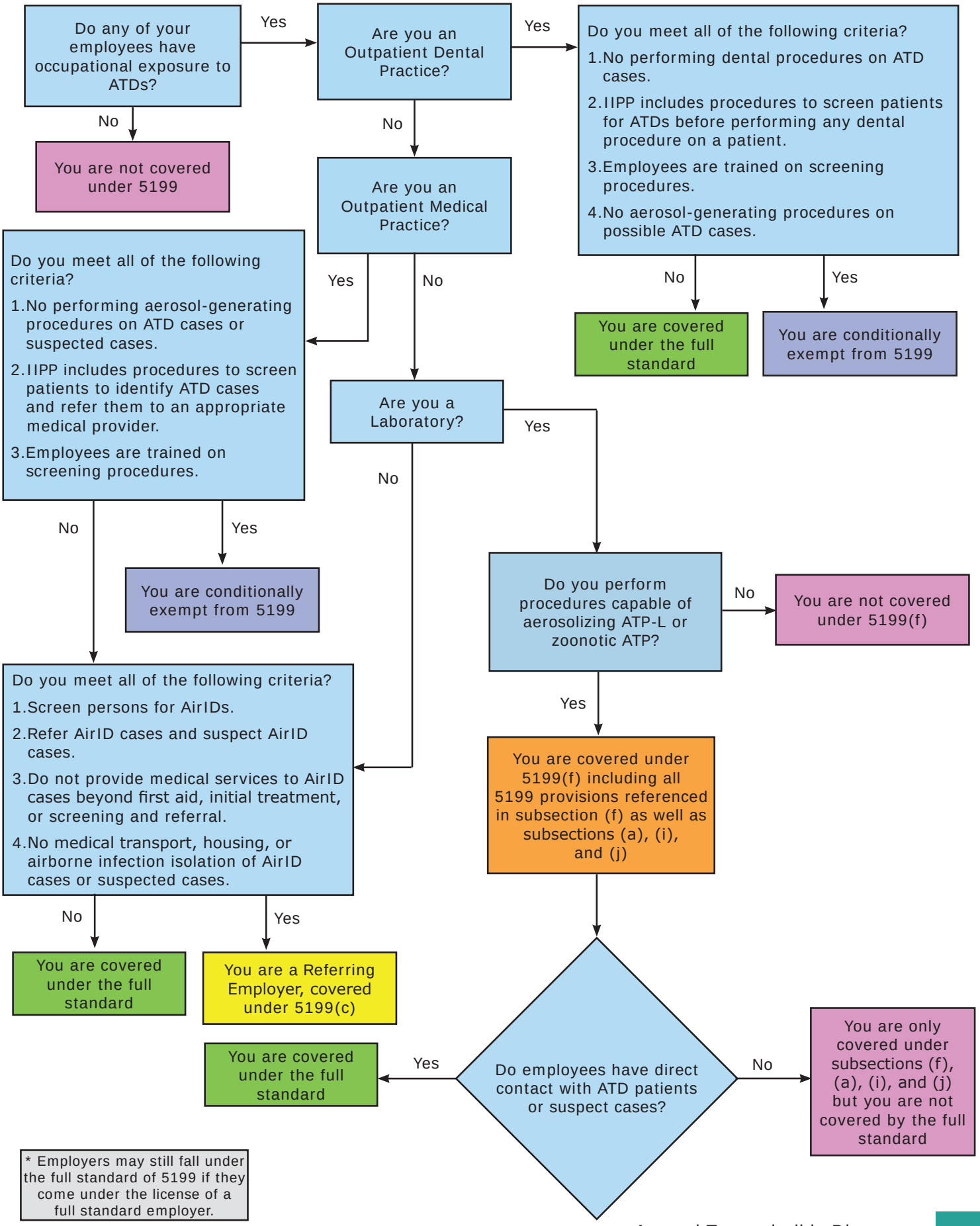
1. Aerosol-generating procedures are not performed on ATD cases or suspected cases.
2. The employer's Injury and Illness Prevention Program includes written screening procedures to identify potential ATD cases and refer them to an appropriate medical provider for further evaluation.
3. The employer trains their employees on the screening procedure.

8 CCR 3203: www.dir.ca.gov/Title8/3203.html

CDC Guideline for Infection Prevention & Control in Dental Settings: www.cdc.gov/oralhealth/infectioncontrol/index.html

What Parts of 8 CCR 5199 Apply to You?*

This flow chart is provided to help you determine which parts of the ATD standard apply to you.



* Employers may still fall under the full standard of 5199 if they come under the license of a full standard employer.

Referring Employers

Referring employers are required to establish a limited set of written procedures instead of the Exposure Control Plan required of employers covered under the full standard.

Employers whose employees have occupational exposure but do not provide diagnosis, treatment, transport, housing, isolation, or management to patients with known or suspected airborne infectious diseases (AirIDs) may qualify as referring employers if they meet all of the following conditions:

1. Screen persons for AirID.
2. Refer any person identified as a case or suspected case of AirID to an appropriate facility for care.
3. Do not intend to provide further medical services to AirID cases and suspected cases beyond first aid, initial treatment or screening, and referral.
4. Do not provide transport, housing, or airborne infection isolation to anyone identified as an AirID case or suspected case unless the transport provided is only non-medical transport in the course of a referral.

This category of employers includes most primary care offices and clinics, many community-based clinics, long-term health care facilities, school nurses, drug treatment facilities, homeless shelters, and jails. Employees working at such facilities may have direct contact with individuals confirmed or suspected to have an AirID and are therefore at increased risk for infection but not to the same extent as employees in a medical treating facility.

Note: Health care employers are categorized according to their licensing so some employers that may otherwise be considered referring employers may actually fall under the full standard. For example, a skilled nursing facility that is licensed under its associated hospital is covered under the full standard.

Written Procedures

Referring employers must establish the following six infection control procedures in writing and make them available to employees at the worksite:

1. Infection control procedures to control the risk of transmission of aerosol transmissible diseases

Referring employers must designate one person as the administrator to have overall responsibility for the ATD infection control procedures. This person must have both the authority to implement the procedures and the knowledge of infection control principles as they apply to the employer. The employer must also designate a back-up person to act on behalf of the administrator should the administrator be offsite.

The procedures must also include a list of the job categories in which employees have occupational exposure to ATDs.

To prevent indirect transmission of ATDs through contact with contaminated surfaces, the written procedures must include procedures to clean and disinfect work areas, vehicles, and equipment that may become contaminated with ATPs.

For guidance on cleaning and disinfection in health care facilities, please refer to the **CDPH Healthcare-Associated Infections (HAI) Program** webpage.

The CDC **Guidelines for Preventing the Transmission of Mycobacterium tuberculosis in Health-Care Settings** also has a page discussing strategies for cleaning versus disinfection.

For guidance on effective products, please see lists E and M on the EPA webpage of **registered disinfectants**.

2. Source control procedures

Source control procedures minimize the spread of potentially infectious airborne particles and droplets from symptomatic individuals (the source). Source control procedures include the following:

- Posting signs near entrances instructing patients to inform health care staff if they have symptoms of respiratory infection;
- Posting information about respiratory hygiene/ cough etiquette and making surgical or procedure masks and tissues available to symptomatic patients;
- Making adequate handwashing facilities with soap or alcohol-based hand sanitizers available to patients and people accompanying them;
- Placing symptomatic persons in a separate room or area, preferably with a separate ventilation system; and
- Instructing persons with whom employees may have contact of the employer's source control measures.

A surgical mask

Surgical masks (i.e., with ties) or procedure masks (i.e., with ear loops) should be used for source control, as they greatly decrease the chance of infectious material escaping the mask. N95 respirators with exhalation valves must not be used for source control, as these do not stop the release of particles and droplets.

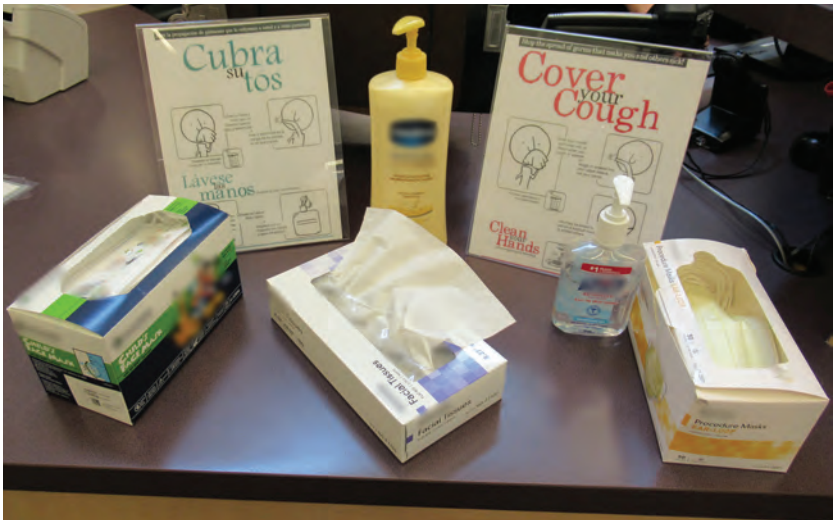
Fixed health care and correctional facilities are required to incorporate the recommendations contained on the CDC webpage, **Respiratory Hygiene/Cough Etiquette in Healthcare Settings**. Other facilities, services, and operations must include them to the extent reasonably practicable.

CDPH guidance on environmental cleaning in health care facilities: www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/EnvironmentalCleaning.aspx

CDC Guidelines for Preventing the Transmission of Mycobacterium tuberculosis in Health-Care Settings: www.cdc.gov/mmwr/preview/mmwrhtml/rr5417a1.htm

Selected EPA-registered Disinfectants: www.epa.gov/pesticide-registration/selected-epa-registered-disinfectants

Respiratory Hygiene/Cough Etiquette in Healthcare Settings: www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm



Examples of source control materials

3. Procedures for screening and referral of patients exhibiting symptoms of AirIDs to appropriate facilities for treatment

Health care providers employed by the referring employer must use their knowledge of airborne infectious disease to screen patients for AirID symptoms so they can implement appropriate protective measures and refer the patients to another facility for treatment.

Workplaces where no health care providers are available to conduct the screening may use the sample screening procedures in **Appendix F** of section 5199, reproduced on page 10 of this publication.

Non-medical workplaces must refer patients with any of the following characteristics to another facility for treatment:

- Have had a cough for more than three weeks that is not explained by non-infectious conditions.
- Exhibit signs and symptoms of flu-like illness from March through October (outside of the typical flu season) or exhibit these signs and symptoms for more than two weeks during any time of the year.
- State that they have a transmissible respiratory disease, except the common cold and seasonal flu.
- State that they have been exposed to an infectious ATD other than seasonal flu.

Signs and symptoms of flu include coughing and other respiratory symptoms, fever, sweating, chills, muscle aches, weakness, and malaise. Patients exhibiting flu symptoms during flu season do not require referral and transfer.

A patient exhibiting AirID symptoms must be transferred to a treating facility within five hours of identification unless the initial encounter with the patient occurs between 3:30 pm and 7:00 am, in which case the patient must be transferred by 11:00 am.

However, if the employer contacts the local health officer and determines that no facility is available to provide airborne infection isolation (AII), then the patient may remain at the employer's facility. The employer must continue to contact the local health officer and other facilities every 24 hours to attempt the transfer.

The patient is also not required to be transferred if the treating physician determines that the transfer would be detrimental to the patient's condition. The patient's condition must be reassessed every 24 hours to determine if they can be safely transferred, and the employer must document the determination. If a transfer is determined to be safe, then it must occur within the timeframes described above.

8 CCR 5199, Appendix F:
www.dir.ca.gov/Title8/5199f.html

Section 5199, Appendix F: Sample Screening Criteria for Work Settings Where No Health Care Providers Are Available (non-mandatory)

This appendix contains sample criteria to be used by non-medical employees for screening purposes in settings where no health care providers are available. Coordination with local health departments, including TB control programs, may be necessary for the success of this referral policy. Employees should be instructed in how clients' privacy will be maintained during screening procedures.

1. For screening a coughing client with potential TB – privately ask the person
   a. if he/she has had a cough for more than three weeks.
   b. if, in addition to cough, he/she has had one or more of the following clinical symptoms of TB disease:
      - Unexplained weight loss (>5lbs)
      - Night Sweats
      - Fever
      - Chronic Fatigue/Malaise
      - Coughing up blood

   A person who has had a cough for more than three weeks and who has one of the other symptoms in b. must be referred to a health care provider for further evaluation, unless that person is already under treatment. Consider referring a person with any of the above symptoms, if there is no alternative explanation.

2. In addition to TB, other vaccine preventable aerosol transmissible diseases, including pertussis, measles, mumps, rubella ("German measles") and chicken pox should be considered when non-medical personnel screen individuals in non-health care facilities. The following is a brief list of some findings that should prompt referral to a health care provider for further evaluation when identified through a screening process:

   - Severe coughing spasms, especially if persistent; coughing fits may interfere with eating, drinking and breathing
   - Fever, headache, muscle aches, tiredness, poor appetite followed by painful, swollen salivary glands, one side or both sides of face under jaw
   - Fever, chills, cough, runny nose, watery eyes associated with onset of an unexplained rash (diffuse rash or blister-type skin rash)
   - Fever, headache, stiff neck, possibly mental status changes

3. Any client who exhibits any of the above described findings and reports contact with individuals known to have any of these transmissible illnesses in the past 2-4 weeks should be promptly evaluated by a health care provider.

4. Health officials may issue alerts for community outbreaks of other diseases. They will provide screening criteria, and people must be referred to medical providers as recommended by the health officer.

4. Procedures to communicate with employees, other employers, and the local health officer regarding the known or suspected infectious disease status of referred patients

This includes communication among an employer's own employees across different shifts or in different departments when a patient is transferred between units.

Depending on the circumstances, this may also include communication between different employers, such as hospitals, long-term care facilities, emergency responders, and law enforcement.

Employers must have procedures for communicating with other employers who are "upstream" and "downstream" from themselves with regard to the patient. They must provide information regarding suspected or diagnosed infectious disease status to facilities to which they refer patients and receive information from the same so that if their employees had an exposure incident, they will be able to provide them with necessary infection control information and post-exposure evaluation and follow-up.

For example, a primary care physician who refers a suspected measles patient to a hospital must have a procedure to communicate the possible diagnosis to the hospital so that the patient is appropriately isolated at the hospital while awaiting confirmatory testing. The primary care physician must also have a procedure to receive information from the hospital so that if the patient is ultimately diagnosed with measles, then the primary care physician can provide appropriate medical follow-up to their employees who were exposed to the patient. The primary care physician is also required to report the suspected case to the local health officer.

5. Procedures to reduce the risk of ATD transmission during the time the person requiring referral is in the referring employer's facility

This includes the time the patient is being screened and while the patient awaits transfer to another facility.

Ideally, these procedures should include placing the patient in a separate room away from other patients, preferably with a separate ventilation or filtration system, if feasible. The ventilation system used for this purpose is not required to include high-efficiency particulate air (HEPA) filtration.

A disposable N95 filtering facepiece respirator. Employees may use respirators with an exhalation valve.

Source control measures must also be part of this procedure.

However, if the patient does not comply with the employer's source control measures then employees must wear N95 respirators. When respirators are necessary, the employer must also comply with subsection (g) and 8 CCR **5144**, Respiratory Protection, including establishment and implementation of a written respiratory protection program. The Respiratory Protection standard also requires employers to provide employees with fit tests, medical evaluations, and training on respirator use and limitations.

Exception to respirator use: Law enforcement and corrections personnel who transport patients requiring referral are not required to wear respiratory protection in the vehicle if all of the following conditions are met:

- A solid partition separates the passenger area from the area where the employees are located.
- The employer implements written procedures that specify the conditions of operation, including the operation of windows and fans.
- The employer tests (e.g., by using smoke tubes, which provide a visual indication of air movement) the airflow in a representative vehicle (of the same model, year, and partition design as the ones used by employees to transport referred patients) under the specified conditions of operation to demonstrate that there is no detectable airflow from the passenger area to the employee area.
- The employer records the results of the tests and maintains them.
- The test is performed by someone knowledgeable in the assessment of ventilation systems.

8 CCR 5144:
www.dir.ca.gov/Title8/5144.html

For more information, please see the **"Respiratory Protection" section of this publication on page 29**. For guidance on section **5144**, please see the
Cal/OSHA **Respiratory Protection guide** with a model program and the Cal/OSHA **Respiratory Protection fact sheet**.

6. Medical services for employees

Referring employers must provide many of the same medical services to their employees as full-standard employers do. This section explains the nuances of referring employers' requirements. For details, please see the **"Medical Services" section of this publication on page 35**.

Latent TB infection surveillance program

A latent TB infection (LTBI) is a condition where the individual infected with the *M. tuberculosis* bacteria does not exhibit symptoms and cannot spread the infection to others. However, approximately 5 to 10% of people with LTBI will develop active and potentially contagious TB disease if left untreated, particularly if they have certain other clinical conditions or diseases. To prevent active TB disease, treatment needs to be offered for the latent infection.

A referring employer's medical services must include a surveillance program to identify LTBI, in accordance with subsections (h)(3) and (h)(4).

Employers are required to make available the annual LTBI screening to all employees with occupational exposure, including annual TB tests and follow-up for TB conversions.

Vaccinations

Referring employers must make the seasonal influenza vaccination available to all employees with occupational exposure during the time of year when it is available (i.e., flu season).

Health care workers must additionally be offered all available vaccinations recommended by the CDPH, listed in **Appendix E** of this standard and reproduced on page **36** of this publication.

Vaccines must be administered by a physician or other licensed healthcare professional (PLHCP) at a time and place reasonable for the employee. For information on employee rights to decline the vaccinations and more, please refer to the "Medical Services" section of this publication.

Cal/OSHA Respiratory Protection Guide:
www.dir.ca.gov/dosh/dosh_publications/respiratory.pdf

Cal/OSHA Respiratory Protection fact sheet:
www.dir.ca.gov/dosh/dosh_publications/respiratory-protection-fs.pdf

8 CCR 5199, Appendix E:
www.dir.ca.gov/Title8/5199e.html

Exposure incidents

An exposure incident is defined in this standard as an event where all of the following have occurred:

1. An employee has been exposed to an individual who is a case or suspected case of a reportable ATD (RATD), or to a work area or equipment that is reasonably expected to contain an aerosol transmissible pathogen associated with a reportable ATD.
2. The exposure occurred without the benefit of applicable exposure controls required by the ATD standard.
3. It reasonably appears from the circumstances of the exposure that transmission of disease is sufficiently likely to require medical evaluation.

An RATD is an ATD that a health care provider is required to report to the local health officer. Referring employers who are not health care providers and do not employ health care providers are not required to ensure this report is made.

Note: In this context, a *health care provider* is a "physician and surgeon, a veterinarian, a podiatrist, a nurse practitioner, a physician assistant, a registered nurse, a nurse midwife, a school nurse, an infection control practitioner, a medical examiner, a coroner, or a dentist."

All referring employers must establish, implement, and maintain written procedures for responding to exposure incidents, including providing post-exposure medical evaluation and follow-up to their employees, and maintenance of all employee rights and benefits during a precautionary medical removal period as required in subsections (h)(6) through (h)(9). As part of this process, employers must also notify other employers whose employees were potentially exposed to the same RATD case so that the other employers may provide medical intervention to their respective employees.

Training

In addition to implementing the six written procedures described above, referring employers must provide their employees with training so that they may recognize and refer persons who potentially have an airborne infectious disease in a timely manner and take necessary precautions. The training must be provided by a knowledgeable person at the time of initial assignment of employees to tasks where occupational exposure to ATD cases could occur and at least annually thereafter.

The training must include all of the following:

1. A general explanation of ATDs including the signs and symptoms that require further medical evaluation;
2. Screening methods and criteria for persons who require referral;
3. The employer's source control measures and how these measures will be communicated to persons the employees contact;
4. The employer's procedures for making referrals in accordance with subsection (c)(3);
5. The employer's procedures for temporary risk reduction measures prior to transfer;
6. Training in accordance with subsection (g) and section **5144** of these orders, when respiratory protection is used;
7. The employer's medical services procedures in accordance with subsection (h), the methods of reporting exposure incidents, and the employer's procedures for providing employees with post-exposure evaluation;
8. Information on vaccines (including the efficacy, safety, the method of administration, the benefits of being vaccinated, and that the vaccine and vaccination will be offered free of charge) the employer will make available, including the seasonal influenza vaccine;
9. How employees can access the employer's written procedures and how employees can participate in reviewing the effectiveness of the employer's procedures in accordance with subsection (c)(8); and
10. An opportunity for interactive questions and answers with a person knowledgeable both in the subject matter as it relates to the employer's workplace and in the employer's infection control procedures (within 24 hours for training not given in person).

Recordkeeping for Referring Employers

The employer must establish and maintain the following records:

1. Training records;
2. Vaccination records;
3. Documentation of exposure incidents;
4. Records of inspection, testing, and maintenance of non-disposable engineering controls, in accordance with subsection (j) of this standard; and
5. Records required by section **5144**, Respiratory Protection, if employees wear respirators.

See the **"Recordkeeping" section of this publication on page 43** for the information to be included in each record and the length of time each record must be retained.

Annual Review

The employer must ensure their ATD infection control procedures, including records, are reviewed annually to determine their effectiveness. This review must be performed by the designated administrator and by employees for their respective work areas.

This update may find that established procedures are not sufficiently protective or that they may not be implemented due to difficulty. There may also be new hazards or new control measures to consider. Changes to procedures must be updated in writing when required. Deficiencies found must be corrected.

Written Programs and Procedures

Employers must protect employees who have occupational exposure using clearly defined procedures, including the establishment of an overall plan administrator, hazard controls, disinfection methods, communication methods, and medical services. This requires establishing, implementing, and maintaining either a written ATD Exposure Control Plan (ECP) or other required procedures, depending on the category of employer.

Referring employers must have written procedures that comply with subsection (c), as described in the **"Referring Employers" section of this publication on page 7**. For assistance in creating their procedures, referring employers may refer to the Cal/OSHA publication, **"Aerosol Transmissible Diseases Referring Employer Model Written Procedures."**

Full-standard employers must have a written ECP that complies with subsection (d), as described below. For assistance in creating their ECP, full-standard employers may refer to the Cal/OSHA publication, **"Aerosol Transmissible Diseases Model Exposure Control Plan."**

Laboratories must have a written Biosafety Plan (BSP) that complies with subsection (f), as described in the **"Laboratories" section of this publication on page 24**. The plan may be incorporated into an ATD ECP or an existing ECP for bloodborne pathogens. For assistance in creating their BSP, laboratory employers may refer to the Cal/OSHA publication, **"Aerosol Transmissible Diseases Model Laboratory Biosafety Plan."**

The three model programs mentioned above are blank templates that employers may customize to create their own written procedures. All are available for download from the **Cal/OSHA Publications webpage**.

A written ATD Exposure Control Plan, required of full standard employers, must include the following elements:

1. The name(s) or title(s) of the person(s) responsible for administering the plan. This person must be knowledgeable in infection control principles and practices as they apply to the facility, service or operation.
2. A list of all job classifications in which employees have occupational exposure.
3. A list of all high hazard procedures performed in the facility, service or operation, and the job classifications and operations in which employees are exposed to those procedures.
4. A list of all assignments or tasks requiring personal or respiratory protection.
5. The methods of implementation of subsections (e), (g), (h), (i) and (j) as they apply to that facility, service or work operation. Specific control measures must be listed for each

Aerosol Transmissible Diseases Referring Employer Model Procedures:
www.dir.ca.gov/dosh/dosh_publications/ATD-Model-Referring.docx

Aerosol Transmissible Diseases Model Exposure Control Plan:
www.dir.ca.gov/dosh/dosh_publications/ATD-Exposure-Control-Plan.docx

Aerosol Transmissible Diseases Model Laboratory Biosafety Plan:
www.dir.ca.gov/dosh/dosh_publications/ATD-Biosafety-Plan.docx

Cal/OSHA Publications webpage:
www.dir.ca.gov/dosh/puborder.asp

operation or work area in which occupational exposure occurs. These measures must include applicable engineering and work practice controls, cleaning and decontamination procedures, and personal protective equipment and respiratory protection. In establishments where the plan pertains to laboratory operations, it also must contain the methods of implementation for subsection (f), unless those operations are included in a Biosafety Plan.

6. A description of the source control measures to be implemented in the facility, service, or operation, and the method of informing people entering the work setting of the source control measures.
7. The procedures the employer will use to identify, temporarily isolate, and refer or transfer AirID cases or suspected cases to AII rooms, areas, or facilities. These procedures must include the methods the employer will use to limit employee exposure to these persons during periods when they are not in airborne infection isolation rooms or areas. These procedures must also include the methods the employer will use to document medical decisions not to transfer patients in need of AII in accordance with subsection (e)(5)(B).
8. The procedures the employer will use to provide medical services, including recommended vaccinations and follow-up, as required in subsection (h). This must include the procedures the employer will use to document the lack of availability of a recommended vaccine.
9. The procedures for employees and supervisors to follow in the event of an exposure incident, including how the employer will determine which employees had a significant exposure, in accordance with subsections (h)(6) through (h)(9).
10. The procedures the employer will use to evaluate each exposure incident, to determine the cause, and to revise existing procedures to prevent future incidents.
11. The procedures the employer will use to communicate with its employees and other employers regarding the suspected or confirmed infectious disease status of persons to whom employees are exposed in the course of their duties, in accordance with subsection (h).
12. The procedures the employer will use to communicate with other employers regarding exposure incidents, including procedures for providing or receiving notification to and from health care providers about the disease status of referred or transferred patients, in accordance with subsection (h).
13. The procedures the employer will use to ensure that there is an adequate supply of personal protective equipment and other equipment necessary to minimize employee exposure to ATPs, in normal operations and in foreseeable emergencies.
14. The procedures the employer will use to provide initial and annual training in accordance with subsection (i) to employees in job categories identified in subsection (d)(2)(B).
15. The procedures the employer will use for recordkeeping, in accordance with subsection (j).
16. An effective procedure for obtaining the active involvement of employees in reviewing and updating the exposure control plan with respect to the procedures performed in their respective work areas or departments in accordance with subsection (d)(3).
17. Surge procedures. Employers of employees who are designated to provide services in surge conditions, and employers of employees who are designated to provide services to persons who have been contaminated as the result of a release of a biological agent as described in subsection (a)(1)(B), must include procedures for these activities in the plan. The plan must include work practices, decontamination facilities, and appropriate personal protective equipment and respiratory protection for such events. The procedures must include how respiratory and personal protective equipment will be stockpiled, accessed or procured, and how the facility or operation will interact with the local and regional emergency plan.

The employer, through their plan administrator, must conduct an annual review of their written ECP or BSP with the active participation of employees to update the program in their respective work areas and correct any deficiencies. The reviews must be documented in writing, in accordance with subsection (j)(3)(A).

The written ECP or BSP must be made available to employees, employee representatives, the Chief of Cal/OSHA or representative, and NIOSH for examination and copying, in accordance with subsection (j)(4).

Engineering and Work Practice Controls and Personal Protective Equipment

To protect their employees from ATDs, employers must use feasible engineering controls and work practice controls. When those do not provide sufficient protection, then the employer must provide and ensure that employees use personal protective equipment (PPE), including respiratory protection, in accordance with 8 CCR 5199 subsections (e) and (g).

Engineering Controls

Engineering controls for airborne infectious diseases (AirIDs) include airborne infection isolation rooms or areas (AIIRs), local exhaust ventilation, high-efficiency particulate air (HEPA) filtration, and ultraviolet germicidal irradiation (UVGI). They may be used separately or together, but in certain situations, one may be more protective than another.

When considering engineering controls, employers should refer to the Centers for Disease Control and Prevention (CDC) **Guidelines for Preventing the Transmission of Mycobacterium tuberculosis in Health-Care Settings**.

Engineering controls must be used in workplaces that admit, house, or provide medical services to people known or suspected to have AirIDs.

An exception is where home health care or home-based hospice care are provided. Employers providing these services cannot ensure that a client's private home is equipped with engineering controls and they cannot deny services based on a lack of them. In these settings, employees must wear respiratory protection. See the **"Respiratory Protection" section of this publication on page 29** for details.

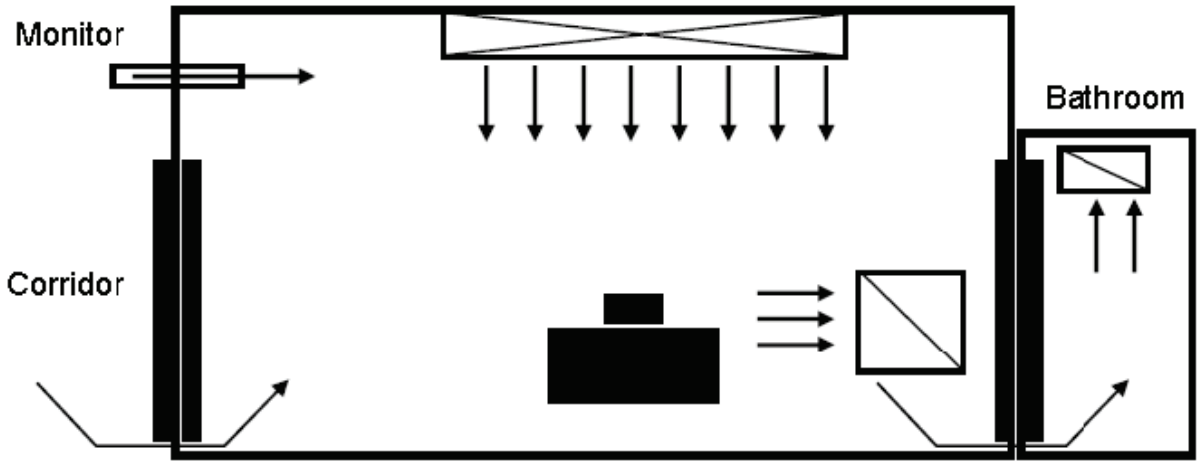
Airborne Infection Isolation Rooms or Areas (AIIR)

An AIIR is a room or other enclosure that is maintained under negative pressure to adjacent areas so that air contaminated with infectious particles or droplet nuclei does not escape the room. When a patient is known or suspected to be infected with an AirID, the ATD standard requires the patient to be placed into an AIIR to protect others from infection.

AIIRs must have a high ventilation rate to constantly dilute contaminated room air. The ventilation system in an AIIR must achieve at least 12 air changes per hour (ACH), meaning that the total volume of air in the room must be exchanged at least 12 times in an hour. Six actual air changes exhausted to the outdoors is acceptable if other air cleaning technologies, such as HEPA filtration, are used to supplement the ventilation to achieve an equivalent of 12 ACH.

AIIRs should use a single-pass ventilation system with air exhausting directly to the outdoors, away from intake vents, employees, and the general public. No additional filtration is needed in such a system.

Guidelines for Preventing the Transmission of Mycobacterium tuberculosis in Health-Care Settings: www.cdc.gov/mmwr/preview/mmwrhtml/rr5417a1.htm



Credit: CDC. Diagram of airflow patterns in an AIIR without an anteroom. Stacked black boxes represent the patient's bed. Long rectangle with cross-hatch represents supply air. Rectangles with single diagonal slashes represent air exhaust registers. Arrows indicate the direction of airflow.

However, if air cannot be exhausted in this manner or if it must be recirculated, then HEPA filtration must be used to capture any infectious droplet nuclei in the air. Recirculation with HEPA filtration may even be preferred in some situations, such as areas where there is no general (i.e., heating and air conditioning) ventilation, the existing ventilation system is not capable of providing sufficient air changes, or the objective is to remove particulate matter without affecting the air supply or negative pressure system.

Another air cleaning method is ultraviolet germicidal irradiation (UVGI), a technology where UV light is used in a room or ventilation duct to inactivate infectious pathogens in the air and on surfaces. However, before using this method, a UVGI system designer should be consulted because many factors affect the effectiveness of the cleaning, including UVGI intensity, lamp position, exposure time, air velocity, air mixing, and relative humidity.

UVGI should never be used instead of HEPA filtration when discharging air from an isolation booth or enclosure directly into a surrounding room or when discharging air from an AIIR into the general building ventilation system. However, UVGI may be used in conjunction with HEPA filtration in those cases.

All engineering controls must be maintained and inspected at least annually and after every filter change. Both HEPA filtration and UVGI must be maintained according to manufacturer instructions and the CDC **Guidelines for Preventing the Transmission of Mycobacterium tuberculosis in Health-Care Settings**. In addition, HEPA filters and the ventilation systems of which they are a part must be inspected and maintained in accordance with 8 CCR **5143**, General Requirements of Mechanical Ventilation Systems. Any problems found must be corrected in a reasonable amount of time, and if a problem prevents effective airborne infection isolation (AII), then it must be repaired before the room may be used for that purpose.

(left): A touch screen AIIR negative pressure monitor with visual and audible alarms that activate if the room air pressure becomes positive; (right): Another type of AIIR negative pressure monitor with visual and audible alarms

AIIRs must be operated under a negative pressure of at least -0.01 inches of water gauge compared to adjacent areas. Their exhaust ducts must also be under negative pressure for the entire length before in-duct HEPA filters or until the ducts exit the building for discharge, as applicable.

Doors and windows of an AIIR must be kept closed while the room is in use for airborne infection isolation except when doors are opened for entering or exiting the room and when windows are part of the ventilation system being used to achieve the required negative pressure.

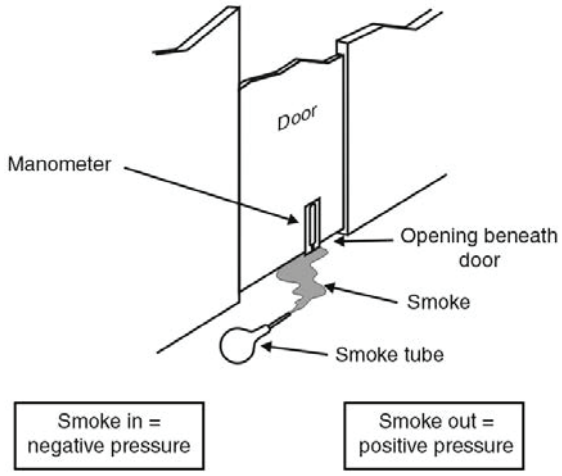
8 CCR 5143: www.dir.ca.gov/Title8/5143.html

(right): An anteroom leading to an AIIR; (far right): An anteroom located between two AIIRs, with access to each

An AIIR may be equipped with an anteroom that serves as a clean buffer area between the AIIR and the hallway. In such setups, the AIIR is usually under negative pressure compared to the anteroom, which is under negative pressure compared to the hallway. However, in some cases, the anteroom is under positive pressure compared to the hallway but the AIIR is under greater negative pressure. PPE and other equipment are usually stored in the anteroom. Employees are to don PPE, including powered air-purifying respirators (PAPRs), in the anteroom before entering an AIIR.

Employers are required to visually demonstrate that the AIIRs are under negative pressure by using smoke trails or another equally effective method. If the smoke flows into the room, then the room is under negative pressure. When performing this check, the smoke tube should be squeezed parallel to the door so that the mere act of squeezing the bulb does not force the smoke to go one direction or the other, creating misleading results.

Alternatively, this visual demonstration may be done by placing a strip of tissue paper near the door crack and observing as the tissue moves in the direction of airflow.



Credit: CDC. Smoke visualization of negative pressure

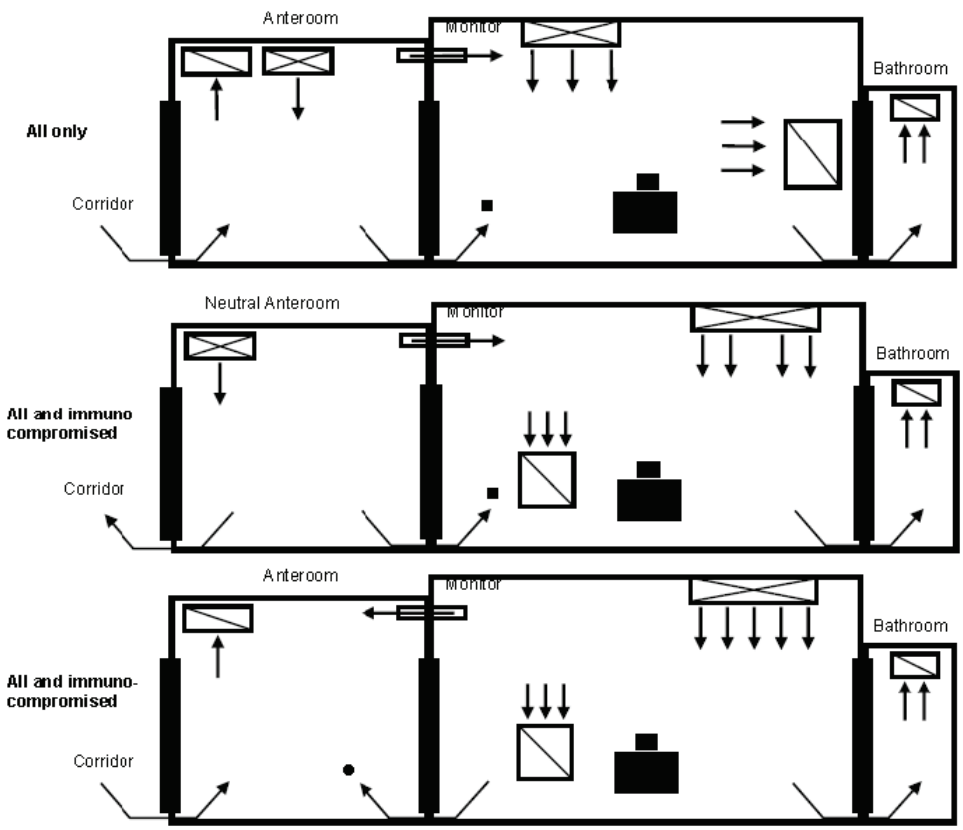
(right): Testing the negative pressure of an AIIR using an electronic device

An electronic pressure-sensing instrument that displays a digital readout of negative pressure may also be used if it indicates the direction of airflow at the required level (at least -0.01″ H_2O), but smoke visualization would still be necessary because instrument sensor calibration or electronics may drift, resulting in false readings. This is true for both handheld and permanently mounted devices. If the employer ensures daily calibration and keeps calibration records, such an instrument would be an acceptable alternative to smoke tubes.

Manometers may also be installed to provide a visible or audible warning to people outside the AIIR if the air pressure becomes positive.

The smoke visualization is required to be done daily while the AIIR is in use for AII. It is advisable to keep a log to ensure that the negative pressure visualizations are performed. The CDC recommends that the AIIR also be tested for negative pressure prior to being occupied for AII and monthly when the AIIR is not being used for AII.

When an AirID case or suspected case vacates an AIIR, the room or area must be ventilated according to Table 1 in the **CDC Guidelines for Preventing the Transmission of Mycobacterium tuberculosis in Health-Care Settings** to clear the air of 99.9% of infectious droplet nuclei. The fewer the air changes, the longer the ventilation time required. A room with 12 ACH must be ventilated



Credit: CDC. AIIRs with anterooms. (top): Diagram of desired airflow if the patient has airborne infectious disease. (middle and bottom): Diagrams of recommended airflow if the patient is both immunocompromised and has an airborne infectious disease.

for 35 minutes. Only after this ventilation period are employees allowed to enter the room without respiratory protection.

When AII must be provided for an immunocompromised patient, employers should refer to the **CDC Guidelines for Environmental Infection Control in Health-Care Facilities**, which recommends using a neutral anteroom, described earlier, to both prevent contaminated air from escaping the AIIR and protect the patient in the AIIR from unfiltered corridor air. However, if an anteroom is not available, the patient should be placed in an AIIR with portable industrial-grade HEPA filters to clean the room air. Also see the **CDC Guidelines for Preventing the Transmission of Mycobacterium tuberculosis in Health-Care Settings**, which expands on ventilation and air-cleaning technologies.

CDC Guidelines for Environmental Infection Control in Health-Care Facilities: www.cdc.gov/infectioncontrol/guidelines/environmental/index.html

Engineering Controls for Vehicles

Employers must protect employees who operate, use, or maintain vehicles used for transporting AirID cases, including ambulances, medical transport vehicles, and helicopters. Such employees work in emergency medical services, law enforcement, correctional facilities, and other operations.

These employers must assess and use feasible engineering controls, such as barriers, air handling systems, and plastic material to cover the passenger compartment for easier decontamination. Employers must also document the assessment in writing, describing their conclusion and how they came to it. These controls must be included in the annual Exposure Control Plan review.

Work Practice Controls

Work practice controls are particular methods with which tasks are performed in order to reduce harmful exposures. They include source control measures, isolation precautions, and decontamination procedures.

Employers must communicate with contractors who work in the facility regarding the ATD hazards present so that the contractors can implement precautions to protect their workers. This is important, not only because it protects the contracted workers, but because the presence

of people who do not take proper precautions will decrease the effectiveness of the facility's established procedures.

Examples of contractors typically found in health care environments include non-employee physicians, nurse registries, phlebotomists, patient lifting contractors, and janitorial contractors.

Source Control Procedures

All employers must establish and implement written source control procedures. Examples of such procedures include

- Posting signs near entrances instructing patients to inform health care staff if they have symptoms of respiratory infection;
- Providing surgical masks (i.e., with ties) or procedure masks (i.e., with ear loops) to people who are coughing and sneezing because they prevent infectious material from escaping the mask, unlike N95 respirators with exhalation valves, which do not;
- Posting information about respiratory hygiene/cough etiquette, instructing people to cover their coughs and sneezes with a tissue and dispose of it after use;
- Making adequate handwashing facilities with soap or alcohol-based hand sanitizers available to patients and people accompanying them; and
- Placing symptomatic persons in a separate room or area, preferably with a separate ventilation system.

(left): Source control signage with a supply of procedure masks at the entrance to a hospital unit; (top right): a surgical mask; (bottom right): an adult-sized procedure mask and a child-sized procedure mask

Fixed health care and correctional facilities are required to incorporate the recommendations on the CDC webpage, **Respiratory Hygiene/Cough Etiquette in Healthcare Settings**. Other facilities, services, and operations must include them to the extent reasonably practicable.

CDC Respiratory Hygiene/Cough Etiquette in Healthcare Settings: www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm

An isolation exam room with an anteroom (at left side of photo) and separate waiting area

Employers must have methods to communicate their source control procedures to people entering the facility, being transported by employees, or otherwise in close contact with employees.

Isolation Precautions

The ATD standard requires the use of airborne, droplet, or contact isolation precautions, depending on the transmission route of the given pathogen. **Appendix A** of the standard, reproduced on page 2 of this publication, lists ATDs according to the CDC's transmission-based precaution classification.

Airborne isolation precautions are described in the **CDC Guidelines for Preventing the Transmission of Mycobacterium tuberculosis in Health-Care Settings**. Droplet and contact precautions are described in the **CDC Guideline for Isolation Precautions**. The basics of these precautions are summarized below, but the full guidelines should be consulted for details.

The employer must implement a system to communicate to employees and a patient's visitors the precautions required for the patient. This generally includes a color-coded sign on the patient's door stating that special precautions are required to enter.

Airborne precautions

A patient with confirmed or suspected AirIDs, such as TB, measles, and chickenpox, must be quickly identified, and contact with employees who are not wearing respiratory protection must be minimized until the patient is transferred or placed in an AIIR. See "Transferring an AirID Patient to an AIIR" on the next page for timeframes and exceptions for transferring patients to an AIIR.

CDC Guideline for Isolation Precautions: www.cdc.gov/infectioncontrol/guidelines/isolation/index.html

When entering the AIIR or caring for an AirID patient, employees must use NIOSH-certified respirators that are at least as protective as an N95 filtering facepiece respirator.

Droplet precautions

Droplet precautions apply to pathogens that spread through close respiratory or mucous membrane contact with respiratory secretions (e.g., coughing or sneezing), such as seasonal influenza virus, *B. pertussis* (whooping cough), and *N. meningitidis* (bacterial meningitis). Droplet precautions do not require special air handling and ventilation. However, the patient should be placed in a single-patient room, if possible, or with another patient who has the same infection.

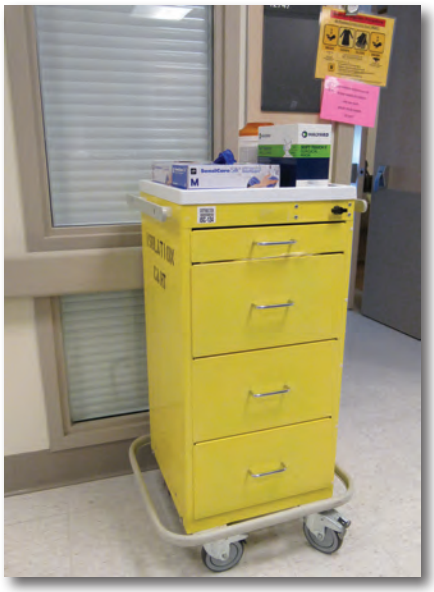
To prevent disease transmission, the patient should be separated from others by at least three feet, though six feet is recommended for some infections. Employees entering the room to care for the patient must wear a mask or a respirator. If patients on droplet precautions must leave their room, they must wear a mask and observe respiratory hygiene/cough etiquette.

Contact precautions

Contact precautions apply to pathogens, such as MRSA, VRE, *C. difficile*, and noroviruses, that transmit through physical contact with the patient or contaminated objects. Contact precautions may apply to ATDs, depending on the job task and proximity to the patient.

Contact precautions include wearing gloves and using good hand hygiene.

(below): A sign posted outside an isolation room communicating the requirement for airborne precautions; (right): A cart supplied with PPE and other supplies for droplet precautions



(below): Gloves must be available in every size necessary for employees to have proper fit

Transferring an AirID Patient to an AIIR

An AirID patient must be transferred to an AIIR within five hours of identification as an AirID case or suspected case. If no AIIR is available in the employer's facility, then the employer must transfer the patient to an AIIR in another facility within that timeframe.

If that is not possible, then at the end of the 5-hour period and at least every 24 hours thereafter, the employer must contact the local health officer (LHO) for guidance on preventing disease transmission and assistance to find an available AIIR in and outside the LHO's jurisdiction. During the time that the patient remains outside of an AIIR, the employer must implement the control measures recommended by the LHO and/or the infection control physician or other licensed health care professional (PLHCP), including respiratory protection for employees entering the room or area housing the patient.

If the employer is unable to transfer the patient to an AIIR, the employer must document the following at the end of the initial 5-hour period and every 24 hours thereafter:

1. The employer has contacted the local health officer.
2. There is no AIIR available within the LHO's jurisdiction.
3. Reasonable efforts have been made to contact establishments outside of that jurisdiction, as provided in the ECP.
4. All applicable measures recommended by the local health officer or the infection control PLHCP have been implemented.
5. All employees who enter the room or area housing the individual are provided with and use appropriate personal protective equipment and respiratory protection in accordance with subsection (g) and section **5144**, Respiratory Protection.

There are two exceptions to the requirement to transfer an AirID patient to an AIIR:

1. Where the treating physician determines that transfer would be detrimental to a patient's condition, the patient need not be transferred. In that case, the facility must ensure that employees use respiratory protection when entering the room or area housing the patient. The patient's condition must be reviewed at least every 24 hours to determine if transfer is safe, and the determination must be recorded as described in the Plan, in accordance with subsection (d)(2)(G). Once transfer is determined to be safe, transfer must be made within the time period set forth in subsection (e)(5)(B).
2. Where it is not feasible to provide AII rooms or areas to individuals suspected or confirmed to be infected with or carriers of novel or unknown aerosol transmissible pathogens (ATPs), the employer must provide other effective control measures to reduce the risk of transmission to employees, which must include the use of respiratory protection in accordance with subsection (g) and section **5144**, Respiratory Protection.

Decontamination Procedures

Some ATPs remain viable and infective on surfaces. Therefore, the employer must develop and implement effective procedures for decontaminating work areas, vehicles, PPE, and other equipment that may have become contaminated with ATPs.

Products appropriate for this purpose appear on lists E and M on the Environmental Protection Agency (EPA) webpage of **registered disinfectants**.

Please also refer to the California Department of Public Health (CDPH) **Environmental Cleaning** webpage for guidance.

The **CDC Guidelines for Preventing the Transmission of *Mycobacterium tuberculosis* in Health-Care Settings** also discusses strategies for cleaning and disinfection.

(left): Disinfecting a blood pressure cuff after a patient exam; (center): Disinfecting an exam table; (right): Different kinds of disinfectant wipes (with bleach and without)

Selected EPA-registered Disinfectants:
www.epa.gov/pesticide-registration/selected-epa-registered-disinfectants

CDPH Healthcare-Associated Infections (HAI) Program Environmental Cleaning:
www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/EnvironmentalCleaning.aspx

Personal Protective Equipment

When engineering and work practice controls are not enough to protect employees from exposure to ATPs, then employers must provide and ensure that employees wear personal protective equipment (PPE), including respiratory protection. This may include gloves, gowns, eye protection, and shoe covers. The ATD standard requires respiratory protection for certain activities. For the list of activities and information about respiratory protection, please see the **"Respiratory Protection" section of this publication on page 29**.

The employer must determine the necessary PPE by conducting a PPE assessment in accordance with 8 CCR 5199 subsection (e)(1) and 8 CCR **3380**, Personal Protective Devices.

The PPE assessment may be more complex for health care facilities that receive victims of biological agent release because, in those situations, information about the involved pathogen may be limited. Federal **OSHA guidelines for such first receivers** are available on their webpage.

High Hazard Procedures

High hazard procedures are procedures performed on a person who has or is suspected to have an ATD or on a specimen containing an aerosol transmissible pathogen – laboratory (ATP-L), that are reasonably anticipated to generate infectious aerosols and have been associated with increased transmission of disease. A few examples are sputum induction, intubation, suctioning, bronchoscopy, and autopsy.

Employers must determine which procedures performed at their workplace are high hazard and update their list during the annual review of their written ECP to account for new procedures or technologies. If a procedure would normally be considered high hazard but the employer's setup greatly decreases aerosol generation, then the employer should still list the procedure in their ECP but explain why it is not high hazard.

High hazard procedures conducted on patients known or suspected of having an AirID must be conducted in an AIIR. In addition, the employer must provide a powered air-purifying respirator (PAPR) with HEPA filters, or a respirator at least as protective, to employees performing the procedure or otherwise in the room. Employees not performing the procedure must not be allowed in the area unless they wear the same type of respirator and PPE required for employees performing the procedure.

Similarly, employers must provide PAPRs with HEPA filters, or respirators at least as protective, to employees performing high hazard procedures on cadavers potentially infected with ATPs.

The regulation allows three exceptions to the PAPR requirement:

- When the employer determines that using a PAPR would interfere with the success of the procedure, in which case the employer must document the determination in writing;
- Where the high hazard procedure is performed by placing the patient in a booth, hood, or other ventilated enclosure that effectively contains and removes the generated aerosols and the employee stays outside the enclosure wearing a respirator at least as protective as an N95 filtering facepiece; and
- When a paramedic or other emergency medical worker in field operations uses a P100, R100, or N100 respirator in accordance with the conditions specified in exception 2 of subsection (g)(3)(B) (see the **"Respiratory Protection" section of this publication on page 29**).

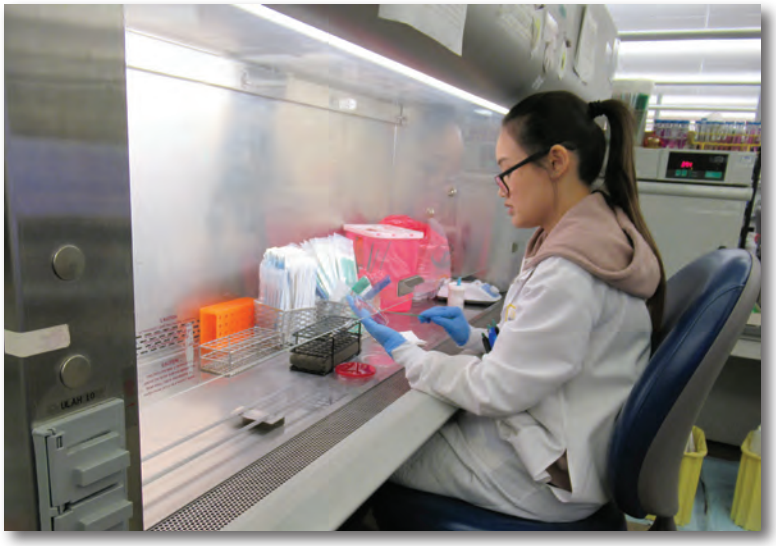
There is also an exception to the requirement for using an AIIR for high hazard procedures conducted on AirID patients. When no AIIR is available and the treating physician determines that delaying treatment would be detrimental to the patient's condition, then the high hazard procedure may be performed in other areas. In that case, all employees in the room, including those not performing the high hazard procedure, must wear respiratory protection, in accordance with subsection (g) and section 5144, and necessary PPE.

Note: For high hazard procedures performed on a patient known or suspected to have an ATD that is not an AirID (i.e., requiring droplet precautions), section 5199 does not require the use of an AIIR or respirators. Instead, droplet precautions require the use of surgical masks. However, the employer may require employees to wear PAPRs, N95 respirators, or any other type of respirator, based on their own evaluation of the circumstances. The CDC or CDPH may also issue updated guidelines recommending higher levels of protection for certain pathogens (e.g., Ebola).

8 CCR 3380: www.dir.ca.gov/Title8/3380.html

OSHA first receiver guidelines: www.osha.gov/dts/osta/bestpractices/html/hospital_firstreceivers.html

Laboratories



Laboratories, such as clinical, public health, research, production, and academic laboratories, are covered under the ATD standard if they perform procedures with materials reasonably anticipated to contain aerosol transmissible pathogens – laboratory (ATP-L) or zoonotic ATPs. Many laboratories, including those in hospitals, are covered under subsection (f) if employees culture samples from patients confirmed or suspected to have TB or other ATD. Other laboratories are covered under subsection (f) if employees work with pathogens, such as *Brucella* species (brucellosis) and *Coccidioides immitis* (Valley Fever), that are not transmitted between people but can be spread by aerosols generated in laboratory procedures.

An ATP-L is a pathogen that meets at least one of the following criteria:

- The pathogen appears on the list in **Appendix D** of this regulation (see page 26 of this publication).
- The **Biosafety in Microbiological and Biomedical Laboratories (BMBL)** recommends biosafety level 3 or above for the pathogen.
- The biological safety officer recommends biosafety level 3 or above for the pathogen.
- The pathogen is a novel or unknown pathogen.

The lab's biological safety officer must conduct and document a risk assessment for each agent or procedure involving ATPs-L to determine appropriate control measures and PPE, including respiratory protection. The risk assessment must be done in accordance with Section II of the BMBL, which provides guidance. The biosafety officer may determine that a specific organism does not require biosafety level 3 practices, for example, because they have confirmed that it is not a virulent strain.

Laboratories must comply with different parts of the ATD standard based on the exposures their employees have to ATPs and ATP-L.

If laboratory employees do not have direct contact with ATD-infected persons or cadavers but do conduct procedures that may aerosolize ATPs-L then the employer must comply with subsection (f). These laboratories are not required to have a written ATD Exposure Control Plan (ECP), but they are required to implement a written Biosafety Plan (BSP). They must also provide training to employees with occupational exposure to ATPs-L and maintain records, in accordance with subsections (i) and (j), respectively.

8 CCR 5199, Appendix D:
www.dir.ca.gov/Title8/5199d.html

Biosafety in Microbiological and Biomedical Laboratories (BMBL):
www.cdc.gov/labs/BMBL.html

If laboratory employees have direct contact with suspected or confirmed ATD patients or potentially infected cadavers, then the employer must comply with the full standard, including subsection (f). These laboratories must have both a written ATD ECP and a written BSP.

The BSP may be incorporated into an existing bloodborne pathogens ECP or ATD ECP and must do all of the following:

1. Identify a biological safety officer(s) with the necessary knowledge, authority, and responsibility for implementing the BSP.

2. Include a list of all job classifications in which all or some employees have occupational exposure, and a list of all tasks and procedures in which employees have occupational exposure.

3. Include a list of ATPs-L known or reasonably expected to be present in laboratory materials and the applicable biosafety measures.

4. Include a requirement that all incoming materials containing ATPs-L are to be treated as containing the virulent or wild-type pathogen until procedures have been conducted at the laboratory to verify that a pathogen has been deactivated or attenuated.

5. Identify and describe the use of engineering controls, including containment equipment and procedures, to be used to minimize exposure to infectious or potentially infectious laboratory aerosols.

6. Establish safe handling procedures and prohibit practices, such as sniffing *in vitro* cultures, that may increase employee exposure to infectious agents.

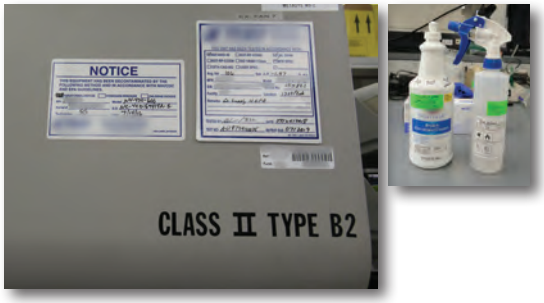
7. Establish effective decontamination and disinfection procedures for laboratory surfaces and equipment.

8. Identify and describe the use of the appropriate personal protective equipment to be used to minimize exposure to infectious or potentially infectious laboratory aerosols.

9. Identify any operations or conditions in which respiratory protection will be required. The use of respiratory protection must be in accordance with subsection (g) and section **5144** of these orders.

10. Establish emergency procedures for uncontrolled releases within the laboratory facility and untreated releases outside the laboratory facility. These procedures must include effective means of reporting such incidents to the local health officer.

11. Include a medical services program consistent with subsection (h), including the provision of all vaccinations as recommended by applicable public health guidelines for the specific laboratory operations, and the methods for providing investigation and medical follow-up for exposure incidents (laboratory).



(left): Biosafety cabinet maintenance records affixed to a BSC; (right): Disinfectants

EXCEPTION: Research and production laboratories in which it is not reasonably anticipated that materials containing *M. tuberculosis* will be present do not need to provide surveillance for LTBI.

12. Include procedures for communication of hazards and employee training that complies with subsection (i). This must include training in the employer's Biosafety Plan and emergency procedures.

13. Include an effective procedure for obtaining the active involvement of employees in reviewing and updating the Biosafety Plan with respect to the procedures performed by employees in their respective work areas or departments on an annual (or more frequent) basis.

14. Include procedures for the biological safety officer(s) to review plans for facility design and construction that will affect the control measures for ATPs-L.

15. Include procedures for inspection of laboratory facilities, including an audit of biosafety procedures. These inspections must be performed at least annually. Hazards found during the inspection and actions taken to correct hazards must be recorded.

Note: An *exposure incident (laboratory)* is defined as "a significant exposure to an aerosol containing an ATP-L without the benefit of applicable exposure control measures required by (the ATD standard)." If a laboratory employee has an exposure incident, the employer must provide appropriate medical follow-up, in accordance with subsection (h). For guidance on that, please see the "Medical Services" section of this publication on page 35.

Note: If an ATP-L is already covered under an employer's existing bloodborne pathogens Exposure Control Plan due to its ability to transmit through blood or other potentially infectious materials, it must also be covered by a Biosafety Plan so that employees are protected from infection through the airborne or droplet routes, which require different control measures than bloodborne pathogens.

Appendix D: Aerosol Transmissible Pathogens – Laboratory (Mandatory)

This appendix contains a list of agents that, when reasonably anticipated to be present, require a laboratory to comply with section 5199 for laboratory operations by performing a risk assessment and establishing a biosafety plan that includes appropriate control measures as identified in the standard.

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
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)

(continued on next page)

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)
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)

(continued on next page)

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

Surgical N95 respirators

Respiratory Protection

When respirators are required

Subsection (g)(4) requires the use of respiratory protection when the employee does any of the following:

- Enters an AIIR in use for AII.
- Is present during the performance of procedures or services for an AirID case or suspected case.
- Repairs, replaces, or maintains air systems or equipment that may contain or generate aerosolized pathogens.
- Works in an area occupied by an AirID case or suspected case, during decontamination procedures after the person has left the area, and as required by subsection (e)(5)(D)9.
- Works in a residence where an AirID case or suspected case is known to be present.
- Is present during the performance of aerosol-generating procedures on cadavers that are suspected of, or confirmed as, being infected with aerosol transmissible pathogens.
- Performs a task for which the Biosafety Plan or Exposure Control Plan requires the use of respirators.
- Transports an AirID case or suspected case within the facility or in an enclosed vehicle (e.g., van, car, ambulance, or helicopter) when the patient is not masked.

Employers may require respiratory protection for any tasks or exposures beyond what is required by the ATD standard.

EXCEPTIONS:

- The employer is not to require or permit respirator use when an employee is operating a helicopter or other vehicle and the respirator may interfere with the safe operation of that vehicle. When employees do not use respirators, the employer must provide other means of protection such as barriers or source control measures, where feasible.

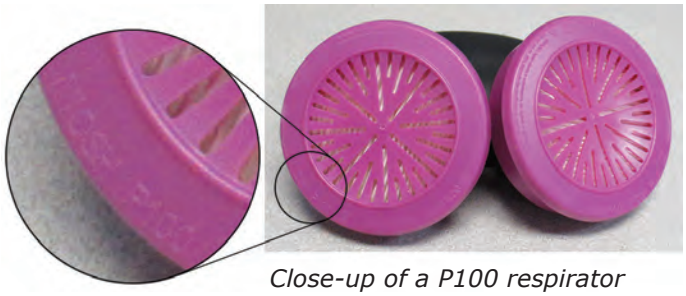
- Law enforcement or corrections personnel who transport an airborne infectious disease case or suspected case in a vehicle are not required to use respiratory protection if all of the following conditions are met:

  1. A solid partition separates the passenger area from the area where employees are located.
  2. The employer implements written procedures that specify the conditions of operation, including the operation of windows and fans.
  3. The employer tests (for example, by the use of smoke tubes) the airflow in a representative vehicle (of the same model, year of manufacture, and partition design) under the specified conditions of operation, and finds that there is no detectable airflow from the passenger compartment to the employee area.
  4. The employer records and maintains the results, in accordance with subsection (j)(3)(F).
  5. The person performing the test is knowledgeable about the assessment of air handling systems.

Types of Respirators

For protection against ATDs, NIOSH-certified respirators with a rating of at least N95 must be used. In respirator filtration classification, the "N" in N95 indicates that the filter is "not resistant to oil." The rating 95 means that at least 95% of the particles will be filtered out by the filter.

Other particulate respirator certifications include N100, R95, P95, and P100. The "P" in the designations indicates that the respirator is suitable for use in an atmosphere containing oil mist ("oil-proof") while the "R" indicates that the respirator is able to be used for short durations in oil-containing atmospheres ("oil-resistant"). The "100" in the designations indicates that the filter is certified to capture nearly 100% (99.97%) of the particles in the air.



Close-up of a P100 respirator cartridge, identifiable by the words, "NIOSH P100"

Respirators come in different styles.

Filtering facepiece respirators have two straps and a nose clip, and the entire facepiece is composed of the filtering material. They filter aerosols and other particles but do not capture gases or vapors. They are disposable and designed for single use, though they may be reused in a shortage. They must be discarded if they become wet, unsanitary, or visibly contaminated.

Respirators may also be made of elastomeric material. These are reusable with disposable filter cartridges. Different kinds of cartridges offer protection from different contaminants, including particulates, gases, and vapors. If protection is required from both particulates and gases or vapors, then combination cartridges are available.

If protection is required from both aerosol transmissible pathogens (ATPs) and bloodborne pathogens that transmit through mucous membrane exposure, then the employee should use a surgical N95 respirator, which is resistant to fluids, or a combination of respirator and face shield or other PPE.

A powered air-purifying respirator (PAPR) is another type of respirator effective against ATPs. A PAPR consists of a blower that draws air through a filter generally worn on the belt and a hose connected to either a tight-fitting mask or a loose-fitting hood with a face shield worn on the head. PAPRs offer greater protection than filtering facepieces and non-powered tight-fitting respirators.

Supplied-air respirators are another effective option. Supplied-air respirators are equipped with either an air tank or an air compressor that supplies air to the wearer through a hose. These are used without filters or cartridges but require maintenance to ensure that the breathing air meets requirements for Grade D air for oxygen content and contaminant levels. A self-contained breathing apparatus (SCBA), similar to a scuba tank worn by divers, is an example of a supplied-air respirator.

(Top, left to right): An N95 filtering facepiece respirator; A half-face elastomeric respirator with P100 cartridges; A full-face elastomeric respirator with combination cartridges; (Bottom, left to right): Close-up of a combination cartridge; Surgical N95 respirators

(left to right): A PAPR with long loose-fitting hood; A surgical PAPR that exhausts exhaled air out the back of the unit to maintain the sterile field in front; A PAPR that allows for stethoscope use

Selecting Respirators for ATD Protection

The employer must select and provide a respirator that is at least as effective as an N95 filtering facepiece respirator, but if the employer determines that higher level protection is necessary for a particular pathogen or exposure scenario, then they must provide a more protective respirator.

In addition, the ATD standard requires employers to provide a PAPR with high-efficiency particulate air (HEPA) filters, or a respirator at least as protective, when employees perform high hazard procedures on a confirmed or suspected AirID case or on a cadaver potentially infected with an ATP. The CDPH, CDC, or NIOSH may also recommend PAPRs with HEPA filters for special situations or novel pathogens.

However, if the employer determines that using a PAPR would interfere with the success of a task, then the employer is allowed to select an appropriate respirator following procedures in their respiratory protection program and ATD ECP. In that case, the employer must document the determination and review it during the annual ATD program review. For example, most PAPRs do not filter air exhaled by the user, so they would not be suitable in surgery where it is necessary to protect the sterile field.

Exceptions to the PAPR requirement:

1. If a high hazard procedure is performed by placing the AirID patient in a booth or other ventilated enclosure that effectively contains and removes the aerosols resulting from the procedure, and the employee remains outside the enclosure, then the employee may use an N95 filtering facepiece or equivalent.

2. Paramedics and other emergency medical personnel in field operations may use a P100, R100, or N100 respirator instead of a PAPR as long as the respirator is used in accordance with its NIOSH approval rating. If an N100 respirator is used, the employer must train employees on how to determine if oil aerosols are present and how alternate respiratory protection will be provided when N100 respirators are not suitable.

If employees are also exposed to chemical, radiologic, or other biological agents, the employer must also select respirators in accordance with 8 CCR **5144** and 8 CCR **5192**, Hazardous Waste Operations and Emergency Response. For example, employees conducting emergency response for the uncontrolled release of anthrax spores are to use an SCBA unless it is determined that it is safe to use a lower level of respiratory protection.

Conversely, surgical masks cannot be used for respiratory protection because they do not protect the user; instead, they prevent the release of potentially infectious aerosols when the user talks, coughs, or sneezes. Even wearing multiple surgical masks at the same time is not equivalent to wearing a respirator. However, because surgical masks are fluid-resistant, combination respirator/surgical masks may be suitable for exposures that contain both airborne particulates and body fluid spray.

For more assistance, you may refer to the CDPH **Respirator Selection Guide for Aerosol Transmissible Diseases**.

Other Requirements for Respirator Use

To achieve the greatest protection, all respirators must be fit tested to its user except for the loose-fitting PAPR. Fit tests may be either qualitative or

CDPH Respirator Selection Guide for Aerosol Transmissible Diseases:
www.cdph.ca.gov/Programs/CCDPHP/DEODC/OHB/CDPH%20Document%20Library/HCResp-ATD-RespSelectGuide.pdf

quantitative and must be performed in accordance with section 5144, **Appendix A**. If a quantitative method is used, employees are only allowed to wear the respirator if they pass the test with a fit factor of at least 100.

Fit testing must be done on the following schedule:

1. Before an employee is initially required to use a respirator;
2. When a different size, make, model, or style of respirator is used; and
3. At least annually thereafter.

The employer must conduct an additional fit test if the employee reports or the employer, supervisor, program administrator, or physician or other licensed health care professional (PLHCP), observes changes in the employee's physical condition that may affect respirator fit. Examples of such changes are significant weight gain or loss, dental changes, and facial scarring.

Before an employee is fit tested or allowed to wear a respirator, the employer must ensure that the employee passes a medical evaluation to determine if the employee is physically fit to wear a respirator and to ensure that the employee does not have a medical condition that would be exacerbated by wearing a respirator. The medical evaluation must be performed in accordance with section **5144**. If employees only wear a respirator for compliance with section 5199 subsections (g)(3)(A) and (g)(3)(B), they may use the alternate medical questionnaire in section 5199, **Appendix B**, which is reproduced on page **33** of this publication.

Employers must also provide training to their employees, including proper use, care, and maintenance of the respirator, including disinfection of reusable respirators. In settings where employees are exposed to infectious pathogens, the employer may consider providing hospital disinfectant wipes instead of the typical wipes used for cleaning respirators.

For more details about choosing a respirator and the requirements of a written Respiratory Protection Program, please see the Cal/OSHA **Guide to Respiratory Protection in the Workplace** and **Respiratory Protection fact sheet**.

Federal OSHA has also created a **Hospital Respiratory Protection Program Toolkit**, including respirator training videos, to assist hospitals in developing their own respiratory protection program.

CDPH has also created a **Respirator Use in Health Care Toolkit**, which contains a guide for implementing a respiratory protection program in hospitals as well as other helpful tools.

8 CCR 5144, Appendix A:
www.dir.ca.gov/Title8/5144a.html

8 CCR 5199, Appendix B:
www.dir.ca.gov/Title8/5199b.html

Cal/OSHA Guide to Respiratory Protection in the Workplace: www.dir.ca.gov/dosh/dosh_publications/respiratory.pdf

Cal/OSHA Respiratory Protection Fact Sheet:
www.dir.ca.gov/dosh/dosh_publications/respiratory-protection-fs.pdf

Federal OSHA Hospital Respiratory Protection Program Toolkit: www.osha.gov/Publications/OSHA3767.pdf

CDPH Respirator Use in Health Care Toolkit:
www.cdph.ca.gov/Programs/CCDPHP/DEODC/OHB/Pages/RespToolkit.aspx

Appendix B – Alternate Respirator Medical Evaluation Questionnaire
(This Appendix is Mandatory if the Employer chooses to use a Respirator Medical Evaluation Questionnaire other than the Questionnaire in Section 5144 Appendix C)

To the PLHCP: Answers to questions in Section 1, and to question 6 in Section 2 do not require a medical examination. Employees must be provided with a confidential means of contacting the health care professional who will review this questionnaire.

To the employee: Can you read and understand this questionnaire (circle one): Yes No

Your employer must allow you to answer this questionnaire during normal working hours, or at a time and place that is convenient to you. To maintain your confidentiality, your employer or supervisor must not look at or review your answers, and your employer must tell you how to deliver or send this questionnaire to the health care professional who will review it.

Section 1. The following information must be provided by every employee who has been selected to use any type of respirator (please print).

Today's date:_____

Name: _____ **Job Title**: _____

Your age (to nearest year): _____

Sex (circle one): Male Female

Height: _____ ft. _____ in. **Weight**: _____ lbs.

Phone number where you can be reached (include the Area Code): (_____) _____

The best time to phone you at this number: _____

Has your employer told you how to contact the health care professional who will review this questionnaire (circle one) :

Yes No

Check the type of respirator you will use (you can check more than one category):
_____ N, R, or P disposable respirator (filter-mask, non-cartridge type only).
_____ Other type (ex, half- or full-facepiece type, PAPR, supplied-air, SCBA**). (fill in type here)** _____

Have you worn a respirator (circle one): Yes No

If "yes," what type(s): _____

Section 2. Questions 1 through 6 below must be answered by every employee who has been selected to use any type of respirator (please circle "yes" or "no").

1. Have you ever had any of the following conditions?

Allergic reactions that interfere with your breathing:	Yes	No	What did you react to? _____
Claustrophobia (fear of closed-in places)	Yes	No	

2. Do you currently have any of the following symptoms of pulmonary or lung illness?

Shortness of breath when walking fast on level ground or walking up a slight hill or incline:	Yes	No	Coughing that produces phlegm (thick sputum):	Yes	No
Have to stop for breath when walking at your own pace on level ground:	Yes	No	Coughing up blood in the last month:	Yes	No
Shortness of breath that interferes with your job:	Yes	No	Wheezing that interferes with your job:	Yes	No
Any other symptoms that you think may be related to lung problems:	Yes	No	Chest pain when you breathe deeply:	Yes	No

3. Do you currently have any of the following cardiovascular or heart symptoms?

Frequent pain or tightness in your chest:	Yes	No
Pain or tightness in your chest during physical activity:	Yes	No
Pain or tightness in your chest that interferes with your job:	Yes	No
Any other symptoms that you think may be related to heart or circulation problems:	Yes	No

4. Do you currently take medication for any of the following problems?

Breathing or lung problems:	Yes	No
Heart trouble:	Yes	No
Nose, throat or sinuses	Yes	No
Are your problems under control with these medications?	Yes	No

5. If you've used a respirator, have you ever had any of the following problems while respirator is being used?
(If you've never used a respirator, check the following space and go to question 6:) _____

Skin allergies or rashes:	Yes	No
Anxiety:	Yes	No
General weakness or fatigue:	Yes	No
Any other problem that interferes with your use of a respirator:	Yes	No

6. Would you like to talk to the health care professional who will review this questionnaire about your answers to this questionnaire: Yes No

Employee Signature	Date	PLHCP Signature	Date

Medical Services

Employers are required to provide medical services at no cost to employees with occupational exposure to ATDs, in accordance with applicable public health guidelines, for the type of work setting and diseases they may encounter at work. Employers must obtain only necessary employee medical information and ensure confidentiality of employee and patient information.

All medical services must be performed by or under the supervision of a physician or other licensed health care professional (PLHCP). When the employer acts as the evaluating health care professional, the employer must advise the employee following an exposure incident that the employee may refuse consent to vaccination, post-exposure evaluation, and follow-up from the employer. If consent is refused, the employer must make the same services available from a PLHCP other than the employer.

Vaccinations

Vaccination is a safe, effective, and reliable method of controlling the spread of infectious diseases where a vaccine is available. Vaccination played an important role in the worldwide eradication of smallpox and the nearly worldwide eradication of polio. Consistent, widespread vaccination was also the reason that measles was eliminated in the U.S. until the recent resurgence due to the decline in the vaccination rate.

When the number of susceptible health care workers is decreased by vaccination, it also helps to prevent transmission of illness to patients.

Employers must make available the vaccinations that are appropriate for their employees' exposures. All covered employers must make the influenza vaccine available during flu season. Susceptible health care workers are required to be offered the vaccinations listed in **Appendix E** of the ATD standard, which is reproduced on page 36 of this publication. Covered laboratories outside of health care settings must offer their employees the vaccines that are applicable to the exposures in their workplace, in accordance with the BMBL.

Employees must be offered the vaccinations after they have received the training required by this regulation and within 10 working days of initial assignment to duties where they have occupational exposure.

EXCEPTIONS:

- If the employee has previously received the vaccination and is not due for another dose.
- A PLHCP has determined that the employee is immune.
- If the vaccine is contraindicated for medical reasons.

If new applicable public health guidelines recommend an additional dose or booster for a particular vaccine, then the employer must make it available to employees within 120 days of issuance of the new guidelines. The CDC updates the list

8 CCR 5199, Appendix E:
www.dir.ca.gov/Title8/5199e.html

of **vaccinations recommended for health care workers** on their website.

The employer must not make participation in a prescreening serology program a prerequisite for receiving a vaccine unless applicable public health guidelines recommend it.

Employees are permitted to decline any recommended vaccination, but the employer must ensure that they sign the statement in **Appendix C1** (reproduced below) for each declined vaccine.

If an employee who initially declined a vaccination later decides to accept it while still covered under the standard, the employee must make their request in writing. Then the employer must make the vaccination available in accordance with subsection (h)(5)(A) within 10 working days of receiving the employee's written request.

If a vaccine is unavailable, the employer must document their efforts to obtain the vaccine in a timely manner and communicate with employees regarding when the vaccine is likely to become available. The employer must also check for the vaccine's availability at least every 60 calendar days and inform employees when it becomes available.

Employees who decline the seasonal influenza vaccination must sign the declination statement in **Appendix C2**, reproduced on page **37** of this publication. An alternative declination statement is acceptable as long as it meets the CDPH requirements of Health and Safety Code Section 1288.7.

If the employee later decides to accept the vaccination and it is still flu season, then the employer must provide it within 10 working days of receiving the employee's written request.

Recommended Vaccines for Healthcare Workers:
www.cdc.gov/vaccines/adults/rec-vac/hcw.html

8 CCR, Appendix C1:
www.dir.ca.gov/Title8/5199c1.html

8 CCR, Appendix C2:
www.dir.ca.gov/Title8/5199c2.html

Appendix E: 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**. (The "Pink Book" by the CDC is available for free download at www.cdc.gov/vaccines/pubs/pinkbook/index.html.)

Appendix C1 – Vaccination Declination Statement (Mandatory)

The employer shall ensure that employees who decline to accept a recommended vaccination offered by the employer sign and date the following statement as required by subsection (h)(5)(E):

I understand that due to my occupational exposure to aerosol transmissible diseases, I may be at risk of acquiring infection with _____ (name of disease or pathogen). I have been given the opportunity to be vaccinated against this disease or pathogen at no charge to me. However, I decline this vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring _____, a serious disease. If in the future I continue to have occupational exposure to aerosol transmissible diseases and want to be vaccinated, I can receive the vaccination at no charge to me.

_____ _____

Employee Signature Date

Appendix C2 – Seasonal Influenza Vaccination Declination Statement (Mandatory)

The employer shall ensure that employees who decline to accept the seasonal influenza vaccination offered by the employer sign and date the following statement as required by subsection (h)(10):

I understand that due to my occupational exposure to aerosol transmissible diseases, I may be at risk of acquiring seasonal influenza. I have been given the opportunity to be vaccinated against this infection at no charge to me. However, I decline this vaccination at this time. I understand that by declining this vaccine, I continue to be at increased risk of acquiring influenza. If, during the season for which the CDC recommends administration of the influenza vaccine, I continue to have occupational exposure to aerosol transmissible diseases and want to be vaccinated, I can receive the vaccination at no charge to me.

Employee Signature _____ Date _____

Assessment for Latent TB Infection

Latent tuberculosis infection (LTBI) is an infection of the lungs with *M. tuberculosis* bacteria but with no symptoms and no risk of spreading the infection to others. However, approximately 5 to 10% of LTBI patients will develop active and potentially communicable TB disease if untreated. Therefore, employers must make LTBI assessment available to all employees with occupational exposure at least annually, in accordance with applicable public health guidelines. This assessment helps to ensure treatment for new TB infections and identify previously unidentified occupational exposures caused by lapses in the employer's infection control procedures.

Note: Research and production laboratories where employees do not work with materials reasonably anticipated to contain *M. tuberculosis*, the pathogen that causes tuberculosis, are not required to offer the annual TB assessment.

The annual TB assessment may be done by administration of a tuberculin skin test (TST), or PPD, that involves injecting TB antigen into the skin and reading the skin reaction 48 to 72 hours later. For more information on this test, see the CDC **Tuberculin Skin Testing fact sheet**.

Alternatively, this may be done with a TB blood test called an interferon-gamma release assay (IGRA).

Employees with a positive baseline TST must have an annual symptom screen.

Employees who experience a TB conversion (i.e., conversion from a previous negative result to a current positive result during a TB assessment) must be referred to a PLHCP for evaluation for active TB and for advice about LTBI treatment.

The employer must provide the PLHCP with a copy of 8 CCR **5199** and a copy of the employee's TB test records. If the employer has determined the source of the infection, the employer must also provide any available diagnostic test results, including drug susceptibility patterns related to the source patient.

With the employee's consent, the employer must request that the PLHCP perform any necessary diagnostic tests and inform the employee about appropriate treatment options. The employer must also request the PLHCP to determine if the employee is a TB case or suspected case and if so, then to also do all of the following:

1. Inform the employee and report the case to the local health officer.
2. Consult with the local health officer and make any infection control recommendations to the employer.
3. Provide the employer a written opinion regarding precautionary removal of the employee from work if active disease is suspected (see **"Post-Exposure Medical Evaluations and Precautionary Medical Removal" section of this publication on page 39**).

CDC Tuberculin Skin Testing fact sheet: www.cdc.gov/tb/publications/factsheets/testing/skintesting.pdf

Note: Either the PLHCP or the local health officer may recommend precautionary medical removal.

In the event of a TB conversion, the employer must record the case on the Cal/OSHA Form 300 Log of Work-Related Injuries and Illnesses unless there is clear evidence that the infection was not contracted at work. To record the case, the employer must place a check in the "respiratory condition" column and enter "privacy case" in the space normally used for the employee's name.

In addition, the employer must investigate the circumstances of the conversion and correct any deficiencies in the procedures, engineering controls, or PPE that were involved. This investigation must be documented.

Exposure Incidents

An exposure incident is defined as an event where all of the following have occurred:

1. An employee has been exposed to an individual who is a case or suspected case of a reportable ATD (RATD), or to a work area or to equipment that is reasonably expected to contain an aerosol transmissible pathogen associated with an RATD.
2. The exposure occurred without the benefit of applicable exposure controls required by the ATD standard.
3. It reasonably appears from the circumstances of the exposure that transmission of disease is sufficiently likely to require medical evaluation.

In the event of an exposure incident, the employer is required to make the notifications and provide the post-exposure medical evaluations described below.

Notifications

A reportable ATD (RATD) is an ATD that a health care provider is required to report to the local health officer in accordance with **Title 17 CCR, Division 1, Chapter 4**. The website includes a list of the different time deadlines for reporting different diseases, ranging from immediate to seven calendar days.

In accordance with the public health reporting requirements in Title 17, health care providers who determine that a patient or client under their care has contracted an RATD must report the case to the local health officer. The employer of such health care providers is required to ensure that the report occurs in a timely manner.

Note: In the context of the ATD standard, a *health care provider* is "a physician and surgeon, a veterinarian, a podiatrist, a nurse practitioner, a physician assistant, a registered nurse, a nurse midwife, a school nurse, an infection control practitioner, a medical examiner, a coroner, or a dentist."

The **CDPH Division of Communicable Disease Control homepage** contains information on infectious disease reporting, including an updated list of RATDs. Contact information for California's local health departments are available on the **California Conference of Local Health Officers** webpage.

Within a timeframe reasonable for the specific disease but no later than 72 hours after the report to the local health officer, employers are required to conduct an effective analysis of the exposure scenario and determine which employees had significant exposures. They must document the following information:

- Names and employee identification numbers of all persons included in the analysis.
- The basis for any determination that an employee does not require post-exposure follow-up due to employee immunity to infection or lack of significant exposure.
- The name of the individual conducting this analysis.
- The name of any PLHCP or local health officer consulted in making the determination.

The employer is also required to determine if employees of other employers were also exposed to the ATD case and to notify those other employers

Title 17, Div. 1, Chapter 4: https://govt.westlaw.com/calregs/Document/I5849DB60A9CD11E0AE80D7A8DD0B623B?viewType=FullText&originationContext=documents&transitionType=CategoryPageItem&contextData=(sc.Default)

CDPH Division of Communicable Disease Control: www.cdph.ca.gov/Programs/CID/DCDC/Pages/DCDC.aspx

California Conference of Local Health Officers: www.cdph.ca.gov/Programs/CCLHO/Pages/LHD%20Contact%20Information.aspx

no later than 72 hours after the report to the local health officer. This allows the other employers time to conduct an investigation to identify exposed employees and provide necessary medical intervention in a timely manner. Examples of such employees include paramedics, emergency medical technicians, emergency responders, home health care personnel, homeless shelter personnel, personnel at referring health care facilities, and corrections personnel. Notification must include the nature, date, and time of exposure as well as the contact information of the diagnosing PLHCP, but must exclude the identity of the source patient.

Within 96 hours of becoming aware of the potential exposure, the employer must notify their employees who had significant exposures of the date, time, and nature of their exposure.

A real-life example illustrates the importance of these notifications. In the course of his duties, a police officer was exposed to a sick member of the public who was then transported to a hospital by paramedics. The hospital diagnosed the patient with bacterial meningitis but did not notify the police department or the paramedics of the diagnosis or the employees' exposures. The police officer developed a meningitis infection and was hospitalized for several days. The paramedics had worn respirators during their contact with the patient so they were not infected. If the police department had been notified of their employee's exposure, they could have provided medical attention sooner and his illness may have been less severe.

Post-Exposure Medical Evaluations and Precautionary Medical Removal

As soon as feasible, the employer must provide a post-exposure medical evaluation to the employees determined to have had significant exposures. The evaluation must be conducted by a PLHCP knowledgeable about the specific disease and include appropriate vaccination, prophylaxis, and treatment. For *M. tuberculosis,* and other pathogens where recommended by applicable public health guidelines, this also includes testing of the isolate from the source individual or material for drug susceptibility unless the PLHCP determines that it is not feasible.

The employer must provide the following information to the PLHCP:

1. A description of the exposed employee's duties as they relate to the exposure incident.
2. The circumstances under which the exposure incident occurred.
3. Any available diagnostic test results, including drug susceptibility pattern or other information relating to the source of exposure that could assist in the medical management of the employee.
4. All of the employer's medical records for the employee that are relevant to the management of the employee, including tuberculin skin test results and other relevant tests for ATP infections, vaccination status, and determinations of immunity.
5. A copy of section **5199** and applicable public health guidelines.

Information regarding exposure incidents and TB conversions, including test results, must be provided without divulging the name of the source individual.

The employer must request from the PLHCP a written opinion on the following:

1. Whether the exposed employee must be medically removed from regular duties as a precaution to prevent spreading the disease agent.
2. What other work assignment may be acceptable, if any.

The employer must also request to be notified immediately by phone or fax if the PLHCP recommends precautionary medical removal. The local health officer may also recommend precautionary removal.

If a PLHCP is the subject of possible medical removal due to their exposure, then a different PLHCP must make the determination regarding precautionary medical removal.

If precautionary medical removal is recommended, the employer must maintain the removed employee's earnings, seniority, and all other employee rights and benefits, including rights to their former job status. These precautionary removal provisions only cover the period of precautionary removal. If the employee develops an active infection, they will likely be covered under workers compensation.

The employer must obtain and provide a copy of the PLHCP's written opinion to the employee within 15 working days of completion of all the required medical evaluations. For TB conversions and all RATD and ATP-L exposure incidents, the written opinion is to contain only the following:

1. The employee's TB test status or applicable RATD test status for the exposure of concern.
2. The employee's infectivity status.

3. A statement that the employee has been informed of the results of the medical evaluation and has been offered any applicable vaccinations, prophylaxis, or treatment.
4. A statement that the employee has been told about any medical conditions resulting from exposure to TB, other RATD, or ATP-L that require further evaluation or treatment and that the employee has been informed of treatment options.
5. Any recommendations for precautionary removal from the employee's regular assignment.

For guidance on completing the Cal/OSHA Form 300 for TB conversions, please see the **"Assessment for Latent TB Infection" section of this publication on page 37**.

Training

Effective training for employees is critical to the success of any infection control program. If employees are knowledgeable about the employer's control procedures, they are better able to protect themselves and others from infection. Employees will also feel safer and more prepared so they will be more likely to report to work during major events such as disease outbreak.

Subsection (i) applies to laboratories and employers covered by the full standard. It does not apply to referring employers, whose training requirements are regulated by subsection (c)(7), described in the "Referring Employers" section of this publication.

The employer must provide training to every employee with occupational exposure to ATDs in language and vocabulary they can understand. The training content must be appropriate for the work setting.

The training may be provided using any method as long as it includes the opportunity for interactive questions and answers with a person knowledgeable in the subject matter as it relates to that particular workplace, including the employer's ATD Exposure Control or Biosafety Plan. If training is not given in person, then the interactive questions must be answered within 24 hours by a knowledgeable person.

The training must be provided at the time of initial assignment to tasks where occupational exposure may occur, at least annually (within 12 months) thereafter, and when there are changes in the workplace or in procedures that could affect employee exposure to ATPs.

The training must include at least the following:

1. An accessible copy of the regulatory text of this standard and an explanation of its contents;
2. A general explanation of ATDs including the signs and symptoms of ATDs that require further medical evaluation;
3. An explanation of the modes of transmission of ATPs or ATPs-L and applicable source control procedures;
4. An explanation of the employer's ATD Exposure Control Plan and/or Biosafety Plan, and the means by which the employee can obtain a copy of the written plan and how they can provide input as to its effectiveness;
5. An explanation of the appropriate methods for recognizing tasks and other activities that may expose the employee to ATPs or ATPs-L;
6. An explanation of the use and limitations of methods that will prevent or reduce exposure to ATPs or ATPs-L including appropriate engineering and work practice controls, decontamination and disinfection procedures, and personal and respiratory protective equipment;
7. An explanation of the basis for selection of personal protective equipment, its uses and limitations, and the types, proper use, location, removal, handling, cleaning, decontamination and disposal of the items of personal protective equipment employees will use;
8. A description of the employer's TB surveillance procedures, including the information that persons who are immune-compromised may have a false negative test for LTBI;

EXCEPTION: Research and production laboratories do not need to include training on surveillance for LTBI if M. tuberculosis-containing materials are not reasonably anticipated to be present in the laboratory.

9. Training meeting the requirements of section 5144(k) for employees whose assignment includes the use of a respirator;
10. Information on the vaccines made available by the employer, including information on their efficacy, safety, method of administration, the benefits of being vaccinated, and that the vaccine and vaccination will be offered free of charge;
11. An explanation of the procedure to follow if an exposure incident occurs, including the method of reporting the incident, the medical follow-up that will be made available, and post-exposure evaluation; and
12. Information on the employer's surge plan as it pertains to the duties that employees will perform. As applicable, this training must cover the plan for surge receiving and treatment of patients, patient isolation procedures, surge procedures for handling of specimens, including specimens from persons who may have been contaminated as the result of a release of a biological agent, how to access supplies needed for the response including personal protective equipment and respirators, decontamination facilities and procedures, and how to coordinate with emergency response personnel from other agencies.

In addition to the above elements, laboratories must also provide training on the employer's emergency procedures.

Recordkeeping

As discussed throughout this publication, the ATD standard requires employers to keep a variety of records. These include employee medical records, employee training records, and other records of implementation of the ATD Exposure Control Plan and/or Biosafety Plan.

All records are to be made available to Cal/OSHA and NIOSH representatives and to the local health officer for examination and copying.

The following records are to be made available as employee exposure records in accordance with 8 CCR **3204**(e)(1) to employees and employee representatives:

- Employee training records
- Exposure Control Plan and/or Biosafety Plan
- Most records of implementation of the ECP and/or Biosafety Plan except for medical records that contain individually identifiable medical information, which are only permitted to be released in accordance with section 5199(j)(4)(C) (see "Medical Records" below)

Medical Records

Medical records must include the employee's name and any other employee identifier used at the workplace. The employer is required to keep the following medical records for each employee:

1. The employee's vaccination status, including any records provided by the employee and any signed declination forms;
2. PLHCP written opinions;
3. Results of all TB assessments; and
4. A copy of the information regarding an exposure incident provided to the PLHCP.

The employer must ask covered employees to provide copies of records of any past vaccinations, if available. If an employee is certain that they received a particular vaccination but does not have documentation, the employer needs to have the employee sign a declination form for that vaccination.

The employer must make employee medical records available upon request to the employee whose records they are, to anyone who has the subject employee's written consent, the local health officer, the Chief of Cal/OSHA or their representative, and NIOSH in accordance with section **3204**, Access to Employee Exposure and Medical Records.

Medical records must be maintained for the duration of the employee's employment plus 30 years, in accordance with section **3204**.

8 CCR 3204:
www.dir.ca.gov/Title8/3204.html

Training Records

The employer must keep training documentation for each employee, including the following information:

1. Date(s) of the training
2. Contents or a summary of the training
3. The names and qualifications of persons conducting the training or who are designated to respond to interactive questions, as applicable
4. The names and job titles of all persons attending the training

Training records must be maintained for 3 years from the date of the training.

Records of Implementation of the ATD ECP and/or Biosafety Plan

Employers are required to maintain many records in addition to medical and training records. The table below summarizes these requirements.

Record	Information that Must Be Included in the Record	Retention Time	Other Applicable Title 8 Section
Records of annual ATD or Biosafety Plan review	• Name of person conducting the review • Date(s) the review was conducted and completed • Name(s) and work area(s) of employees involved • Summary of conclusions	3 years	---
Records of exposure incidents	• Date of the exposure incident • Names and any other employee identifiers used in the workplace of employees who were included in the exposure evaluation • Disease or pathogen to which employees may have been exposed • Name and job title of person performing the evaluation • Identity of any local health officer and/or PLHCP consulted • Date of the evaluation • Date of contact and contact information for any other employer who either notified the employer or was notified by the employer regarding potential employee exposure	At least 30 years (as an exposure record)	3204
Records of unavailability of a vaccine	• Name of person who determined the vaccine was not available • Name and affiliation of person providing the vaccine availability information • Date of the contact	3 years	---
Records of unavailability of AII rooms or areas	• Name of person who determined that AIIR was not available • Names and affiliation of persons contacted for transfer possibilities • Date of the contact • Name and contact information for local health officer providing assistance • Times and dates of these contacts (Do not include patient's individually identifiable medical information)	3 years	---

(continued on next page)

Record	Information that Must Be Included in the Record	Retention Time	Other Applicable Title 8 Section
Records of decisions not to transfer a patient to another facility for AII due to medical reasons	To be documented in the patient's chart. Summary must be provided to the Plan administrator: • Name of physician determining that patient was not able to be transferred • Date and time of initial decision • Date, time, and identity of the person(s) who performed each daily review (Summary must not include patient's individually identifiable medical information)	3 years (summary)	---
Records of inspection, testing, and maintenance of non-disposable engineering controls (e.g., ventilation systems, air filtration systems, biological safety cabinets)	• Name(s) and affiliation(s) of person(s) performing the test, inspection, or maintenance • Date • Any significant findings and actions that were taken	5 years	---
Records of the Respiratory Protection Program	• Medical evaluation for respiratory protection use • Fit testing records • Respiratory protection program	varies	5144 3204

Quick Summary Guides

The following quick summary guides are designed to help certain types of employers to see their responsibilities under the ATD standard at-a-glance. However, they are not complete descriptions of each requirement. For that, please refer to the full standard.

Primary Care Facilities That Refer AirID Cases

Primary care facilities, such as medical offices and clinics, provide most medical care for people with ATDs, such as pertussis (whooping cough), pneumonia, mumps, and influenza. However, most primary care facilities are not equipped to provide airborne infection isolation so they refer airborne infectious disease (AirID) cases or suspected cases to hospitals or specialty clinics that have appropriate facilities to provide diagnostic services, therapy, or care to such patients.

Primary care facilities are considered referring employers if they only intend to provide initial treatment or screening services for people with an AirID. Referring employers are required to do the following:

1. Designate an administrator to be responsible for developing and implementing effective procedures to control the risk of transmission of ATDs **(5199(c)(1))**, which must be reviewed and revised annually with employee participation **(5199(c)(8))**.
2. Implement written source control procedures (respiratory hygiene/cough etiquette) for people entering the facility, such as providing surgical masks, tissues, and hand hygiene materials **(5199(c)(2))**.
3. Implement written procedures for screening and referring AirID cases and suspected cases to appropriate facilities within required timeframes **(5199(c)(3))**.
4. Implement written procedures to communicate with employees, other employers, and the local health officer regarding the suspected or diagnosed infectious disease status of referred patients **(5199(c)(4))**.
5. Implement written procedures to reduce the risk of ATD transmission during the period a person requiring referral is in the facility or is in contact with employees **(5199(c)(5))**.
6. Offer the vaccinations recommended by public health authorities, including the seasonal flu vaccine, to all susceptible health care workers potentially exposed to ATDs and document any employee declinations **(5199(c)(6))**.
7. Establish procedures for providing medical services for covered employees, including annual assessments for latent tuberculosis infection and post-exposure evaluation for employees who have had an exposure incident and maintenance of all employee rights and benefits during a precautionary medical removal period **(5199(c)(6))**.
8. Provide training at or prior to an employee's initial assignment to a job covered by this regulation, at least annually thereafter, and when there are changes that may affect worker ATD exposure **(5199(c)(7))**.
9. Keep records, including documentation of training, vaccinations, exposure incidents, inspections of any ventilation systems or other engineering controls, and if applicable, the respiratory protection program **(5199(j))**.

Emergency Medical Services

Paramedics and other emergency medical and medical transport personnel provide critical care to people in field situations with limited options for controlling exposures. Care could include procedures that may generate infectious aerosols and expose employees to the risk of contracting an ATD. Although certain engineering controls, such as airborne infection isolation rooms (AIIR), are not available in field situations, employers are required to provide alternate means of protecting these employees.

These employers must comply with the full standard, including the following:

1. Develop a written ATD Exposure Control Plan that addresses control measures for ATDs and identifies people responsible for implementing the plan **(5199(d))**.
2. Reduce exposures by using engineering controls, work practices, and personal protective equipment **(5199(e)(1))**.
3. Implement source control measures, such as providing a surgical mask, tissues, or hand hygiene materials to persons who are coughing, if feasible **(5199(e)(1)(B))**.
4. Establish procedures for the early identification and appropriate placement of patients who require airborne infection isolation (AII) **(5199(e)(5))**.
5. Establish communications procedures within the organization and with facilities to and from which patients are transported that include the following **(5199(d)(2)(K) and (L) and 5199(h)(6))**:
    a. Receiving information regarding the infectious disease status of patients that will be or have been treated or transported and
    b. Notifying employees and other employers whose employees have had an exposure incident.
6. Provide respirators, in accordance with 8 CCR 5144, to employees for certain exposures to suspected or confirmed AirID cases, including powered air-purifying respirators (PAPRs) for employees performing aerosol-generating procedures, such as intubation, on suspected or confirmed AirID cases unless it would interfere with the completion of the task **(5199(g))**.
7. Implement engineering and work practice controls for employees who operate, use, or maintain vehicles that transport ATD cases or suspected cases, including the following **(5199(e)(1)(C))**:
    a. Barriers and air handling systems, where feasible, and
    b. Providing employees with respirators when transporting AirID cases unless it may interfere with the safe operation of a vehicle, in which case, the employer must provide other control methods, such as barriers or source control measures **(5199(g)(4)(H))**.
8. Implement procedures for decontamination of vehicles, work areas, PPE, and other equipment **(5199(e)(2))**.
9. Provide medical services for employees who have occupational exposure, including **(5199(h))**:
    a. Providing annual LTBI assessments and follow-up for TB conversions
    b. Offering seasonal influenza vaccine to all employees with occupational exposure, offering vaccinations to susceptible health care workers for measles, mumps, and rubella (MMR); varicella-zoster (VZV); and tetanus, diphtheria and acellular pertussis (Tdap), and documenting any employee declinations
    c. Providing post-exposure follow-up of exposure incidents, including maintaining all employee rights and benefits, including pay, if a physician or other licensed health care provider (PLHCP) recommends precautionary removal from the workplace because the employee may be contagious and no alternate work is available.
10. Provide training upon an employee's initial assignment to a job covered by this regulation, at least annually thereafter, and when there are changes that may affect worker ATD exposure **(5199(i))**.
11. Keep records, including medical records, training records, records related to the respiratory protection program, records of tests of ventilation systems and other engineering controls, and records of exposure incidents **(5199(j))**.

Laboratories

Employees who work in clinical and biological research laboratories are at risk of contracting ATDs due to laboratory procedures that could generate aerosols containing ATPs-L.

Subsection (f) of the ATD standard requires these laboratories to adopt standard biosafety practices and control measures, consistent with CDC recommendations in the Biosafety in Microbiological and Biomedical Laboratories (BMBL), to protect laboratory workers from exposures to ATPs-L. When laboratory employees also have direct contact with patients, the employer is required to comply with applicable parts of the full standard.

The ATD standard requires laboratory employers to use feasible engineering and work practice controls to limit exposure to infectious aerosols and to provide PPE and respirators when necessary to control exposures. The employer is also required to keep records of training, inspections, exposure incidents, the respiratory protection program, vaccinations and any unavailability thereof, and evaluation of engineering controls and other control measures. In addition, the employer is required to develop, implement, and annually review a written Biosafety Plan (BSP) that includes the following:

1. Identification of a biosafety officer who will be responsible for implementing, reviewing, and updating the BSP, and for reviewing plans to modify the facility;
2. A list of all job classifications, tasks, and procedures in which employees have occupational exposure to ATPs-L;
3. A list of the ATPs-L that are present or reasonably expected to be present in laboratory materials and the applicable biosafety measures;
4. Safe handling procedures and a list of prohibited practices, such as sniffing *in vitro* cultures, which may increase employee exposure to infectious agents;
5. Engineering controls, including containment equipment and procedures, such as biosafety cabinets;
6. Procedures identifying the use of personal protective equipment to minimize exposure and any operations or conditions requiring respirators;
7. Effective decontamination and disinfection procedures for laboratory surfaces and equipment;
8. A requirement that all incoming materials containing ATPs-L be treated as containing the virulent or wild-type pathogen until procedures conducted at the laboratory verify they are deactivated or attenuated;
9. Inspection procedures including an audit of biosafety procedures, to be performed at least annually;
10. Emergency procedures for uncontrolled releases within the laboratory facility and untreated releases outside the laboratory facility, including reporting such incidents to the local health officer;
11. A program for medical services, including the following:
    a. Vaccinations, in accordance with the BMBL, for the specific laboratory operations
    b. Annual assessments for LTBI in clinical laboratories and laboratories where materials containing *M. tuberculosis* may be present
    c. Medical follow-up for employees who have had a significant exposure to an ATP-L without the benefit of applicable required control measures
12. Procedures for initial and annual employee training, including on the employer's Biosafety Plan and emergency procedures;
13. Procedures to obtain the active involvement of employees in evaluating the effectiveness of the BSP in their work areas on an annual basis;
14. Procedures for the biological safety officer to review plans for facility design and construction that will affect the control measures for ATPs-L.

Corrections and Law Enforcement

Corrections and law enforcement personnel are at increased risk for infection with ATDs. Correctional facilities vary in their available resources and the services they provide to potentially infectious people. California law currently requires jails to screen inmates upon arrival at the facility and develop procedures for the management of inmates suspected of having communicable diseases (California Code of Regulations, title 15). Facilities that provide treatment, diagnosis, or housing to individuals requiring airborne infection isolation are covered under the full standard.

However, many jails refer those individuals immediately to a health care facility. These employers are considered referring employers under 8 CCR 5199 and must comply with the limited requirements of subsection (c):

1. Designate an administrator to be responsible for developing and implementing effective procedures to control the risk of transmission of ATDs **(5199(c)(1))**, which must be reviewed and revised annually with employee participation **(5199(c)(8))**.
2. Implement written source control procedures (respiratory hygiene/cough etiquette) for people working in and entering fixed establishments, such as jails, and when feasible for field operations **(5199(c)(2))**.
3. Identify and refer or transport AirID cases or suspected cases to a facility that can provide appropriate diagnosis, treatment, and isolation **(5199(c)(3))**.
4. Implement written procedures to communicate with employees and other employers, such as those that transport the referred person and the hospital that receives them, regarding the referred person's suspected or confirmed infectious disease status **(5199(c)(4))**.
5. Establish temporary control measures to protect employees during the period a person requiring referral is awaiting transfer to another facility, including if feasible, placing the person in a separate room or area with a separate or filtered ventilation system and using respiratory protection if the patient is not masked and other control measures are not in place **(5199(c)(5))**.
6. Offer all employees with occupational exposure the seasonal flu vaccine, offer health care workers the vaccines recommended by the CDPH, listed in 8 CCR 5199, Appendix E, and documenting any employee declinations **(5199(c)(6))**.
7. Establish procedures for providing medical services for covered employees, including annual assessments for latent tuberculosis infection and post-exposure evaluation for employees who have been exposed at work to a confirmed case of a reportable ATD, including maintenance of all employee rights and benefits, including pay, if a physician or other licensed health care provider (PLHCP) recommends precautionary removal from the workplace because the employee may be contagious and no alternate work is available **(5199(c)(6))**.
8. Provide training at or prior to an employee's initial assignment to a job covered by this regulation, at least annually thereafter, and when there are changes that may affect employee ATD exposure **(5199(c)(7))**.
9. Keep records, including documentation of training, vaccinations, exposure incidents, inspections of ventilation systems or other engineering controls, and if applicable, the respiratory protection program **(5199(j))**.

Homeless Shelters and Drug Treatment Programs

Employees in homeless shelters and drug treatment programs may be exposed to ATDs because the populations receiving these services are at greater risk of having tuberculosis and some other ATDs. Disease transmission is likely to occur readily in these workplaces due to crowded conditions or lack of adequate ventilation. Most of these facilities do not have trained health care providers on-site to determine whether people exhibiting ATD symptoms, such as a persistent cough, pose an infection risk to employees and to other clients of the facility.

These employers are referring employers under 8 CCR 5199 and are required to establish procedures to reduce the risk of infection to their employees, including the following:

1. Designate an administrator to be responsible for developing and implementing effective procedures to control the risk of transmission of ATDs **(5199(c)(1))**, which must be reviewed and revised annually with employee participation **(5199(c)(8))**.
2. Implement written source control procedures for persons who enter the facility coughing or otherwise appearing to have an ATD, such as providing surgical masks, tissues, and hand hygiene materials **(5199(c)(2))**.
3. Implement written procedures to screen and refer symptomatic clients to a health care provider within the required timeframes **(5199(c)(3))**.
4. Implement written procedures to communicate with employees and other employers, such as those that transport the referred person and the hospital that receives them, regarding the referred person's suspected or confirmed infectious disease status **(5199(c)(4))**.
5. Implement written procedures to reduce the risk of transmission of ATDs during the period a person requiring referral is in the facility or is in contact with employees, including if feasible, placing the person in a separate room or area with a separate or filtered ventilation system, and providing a respirator to employees who must enter the area if the person is not using source control measures and other controls are not available **(5199(c)(5))**.
6. Offer the seasonal flu vaccine to employees covered by this regulation **(5199(c)(6))**.
7. Establish procedures for providing medical services for covered employees, including annual assessments for latent tuberculosis infection and post-exposure evaluation for employees who have been exposed at work to a confirmed case of a reportable ATD, including maintenance of all employee rights and benefits, including pay, if a physician or other licensed health care provider (PLHCP) recommends precautionary removal from the workplace because the employee may be contagious and no alternate work is available **(5199(c)(6))**.
8. Provide training upon an employee's initial assignment to a job covered by this regulation, at least annually thereafter, and when there are changes that may affect worker ATD exposure **(5199(c)(7))**.
9. Keep records, including documentation of training, vaccinations, exposure incidents, inspections of ventilation systems or other engineering controls, and if applicable, the respiratory protection program **(5199(j))**.

Hospitals

Hospitals play a critical function in caring for individuals with ATDs and in preventing the spread of infection. Most California hospitals are prepared to provide airborne infection isolation (AII) to people with tuberculosis and other AirIDs. Title 8 CCR 5199 specifically requires hospitals to do the following:

1. Develop a written ATD Exposure Control Plan that addresses infection control measures for ATDs and identifies people responsible for implementing the plan and annually reviewing and revising it with employees in their work areas **(5199(d))**.
2. Implement source control procedures (respiratory hygiene/cough etiquette) for people entering the facility, such as providing surgical masks or tissues and hand hygiene materials **(5199(e)(1)(B))**.
3. Reduce exposures by using engineering controls, work practices, and personal protective equipment **(5199(e)(1))**.
4. Establish procedures for the early identification and appropriate placement of patients requiring AII **(5199(e)(5))**.
5. Establish communication procedures within the hospital and with facilities, services, and operations that refer AirID patients to the hospital, that include the following **(5199(d)(2)(K) and (L) and 5199(h)(6))**:
    a. Notifying units to which patients are sent of the suspected disease status of the patients and recommended isolation precautions;
    b. Reporting cases and suspected cases of reportable ATDs to the local health officer; and
    c. Notifying employees and referring employers of unprotected significant exposures to reportable ATD cases.
6. Ensure that airborne infection isolation rooms function properly and that negative pressure is verified daily when the room is in use for isolation **(5199(e)(5)(D))**.
7. Ensure that high hazard procedures performed on AirID patients are done in airborne infection isolation rooms or areas (AIIRs) **(5199(e)(5)(C))**.
8. Provide respirators, in accordance with 8 CCR 5144, to employees for certain exposures to suspected or confirmed AirID cases, including powered air-purifying respirators (PAPRs) for employees performing aerosol-generating procedures, such as intubation, on suspected or confirmed AirID cases unless it would interfere with the completion of the task **(5199(g))**.
9. Implement procedures for decontamination of equipment, work areas, and personal protective equipment **(5199(e)(2))**.
10. Provide medical services for employees who have occupational exposure, including the following **(5199(h))**:
    a. Providing annual TB assessments and follow-up for TB conversions;
    b. Offering vaccinations to susceptible health care workers for measles, mumps, and rubella (MMR); varicella-zoster (VZV); and tetanus, diphtheria and acellular pertussis (Tdap), providing seasonal influenza vaccine to all covered employees, and documenting any employee declinations of vaccination; and
    c. Providing post-exposure follow-up of exposure incidents, including maintenance of all employee rights and benefits, including pay, if a physician or other licensed health care provider (PLHCP) recommends precautionary removal from the workplace because the employee may be contagious and no alternate work is available.
11. Ensure that a Biosafety Plan is in place for laboratory operations **(5199(f))**.
12. Provide training upon an employee's initial assignment to a job covered by this regulation, at least annually thereafter, and when there are changes that may affect worker ATD exposure **(5199(i))**.
13. Keep records, including documentation of training, medical services, exposure incidents, testing of ventilation systems and other engineering controls, and the respiratory protection program **(5199(j))**.

Resources

Cal/OSHA

Title 8

Title 8 CCR 332.3, Issuance of Order to Take Special Action: www.dir.ca.gov/title8/332_3.html

Title 8 CCR 3203, Injury and Illness Prevention Program: www.dir.ca.gov/Title8/3203.html

Title 8 CCR 3204, Access to Employee Exposure and Medical Records: www.dir.ca.gov/Title8/3204.html

Title 8 CCR 3380, Personal Protective Devices: www.dir.ca.gov/Title8/3380.html

Title 8 CCR 5143, General Requirements of Mechanical Ventilation Systems: www.dir.ca.gov/Title8/5143.html

Title 8 CCR 5144, Respiratory Protection: www.dir.ca.gov/Title8/5144.html

Title 8 CCR 5144, Appendix A, Fit Testing Procedures: www.dir.ca.gov/Title8/5144a.html

Title 8 CCR 5192, Hazardous Waste Operations and Emergency Response: www.dir.ca.gov/Title8/5192.html

Title 8 CCR 5193, Bloodborne Pathogens: www.dir.ca.gov/Title8/5193.html

Title 8 CCR 5199, Aerosol Transmissible Diseases: www.dir.ca.gov/Title8/5199.html

Title 8 CCR 5199, Appendix A, List of ATDs/ATPs: www.dir.ca.gov/Title8/5199a.html

Title 8 CCR 5199, Appendix B, Alternate Respirator Medical Evaluation Questionnaire: www.dir.ca.gov/Title8/5199b.html

Title 8 CCR 5199, Appendix C1, Mandatory Vaccination Declination Statement: www.dir.ca.gov/Title8/5199c1.html

Title 8 CCR 5199, Appendix C2, Seasonal Influenza Vaccination Declination Statement (Mandatory): www.dir.ca.gov/Title8/5199c2.html

Title 8 CCR 5199, Appendix D, List of ATPs-Laboratory: www.dir.ca.gov/Title8/5199d.html

Title 8 CCR 5199, Appendix E, Recommended ATD Vaccinations for Susceptible Health Care Workers: www.dir.ca.gov/Title8/5199e.html

Title 8 CCR 5199, Appendix F, Sample Screening Criteria for Work Settings Where No Health Care Providers Are Available: www.dir.ca.gov/Title8/5199f.html

Title 8 CCR 5199.1, Zoonotic ATD: www.dir.ca.gov/Title8/5199-1.html

Publications

Aerosol Transmissible Diseases Model Exposure Control Plan: www.dir.ca.gov/dosh/dosh_publications/ATD-Exposure-Control-Plan.docx

Aerosol Transmissible Diseases Model Laboratory Biosafety Plan: www.dir.ca.gov/dosh/dosh_publications/ATD-Biosafety-Plan.docx

Aerosol Transmissible Diseases Referring Employer Model Written Procedures: www.dir.ca.gov/dosh/dosh_publications/ATD-Model-Referring.docx

Cal/OSHA Publications: www.dir.ca.gov/dosh/puborder.asp

Respiratory Protection Guide and Model Program: www.dir.ca.gov/dosh/dosh_publications/respiratory.pdf

Respiratory Protection Fact Sheet: www.dir.ca.gov/dosh/dosh_publications/respiratory-protection-fs.pdf

California Department of Public Health (CDPH)

California Conference of Local Health Officers (CCLHO) Contact Information: www.cdph.ca.gov/Programs/CCLHO/Pages/LHD%20Contact%20Information.aspx

California Local Health Department Contact Information for Communicable Disease Reporting: www.cdph.ca.gov/Programs/CCLHO/CDPH%20Document%20Library/LHD_CD_Contact_Info_ADA.pdf

CDPH Division of Communicable Disease Control Homepage: www.cdph.ca.gov/Programs/CID/DCDC/Pages/DCDC.aspx

CDPH Guide to Respirator Use in Health Care – a Toolkit for Program Administrators: www.cdph.ca.gov/Programs/CCDPHP/DEODC/OHB/Pages/RespToolkit.aspx

CDPH Healthcare-Associated Infections Program - Effective Cleaning Strategies: www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/EnvironmentalCleaning.aspx

CDPH Respirator Selection Guide for Aerosol Transmissible Diseases: www.cdph.ca.gov/Programs/CCDPHP/DEODC/OHB/CDPH%20Document%20Library/HCResp-ATD-RespSelectGuide.pdf

Centers for Disease Control and Prevention (CDC)

CDC's Biosafety in Microbiological and Biomedical Laboratories (BMBL): www.cdc.gov/labs/BMBL.html

CDC Fact Sheet – Tuberculin Skin Testing: www.cdc.gov/tb/publications/factsheets/testing/skintesting.pdf

CDC Guidelines for Environmental Infection Control in Health-Care Facilities (2003): www.cdc.gov/infectioncontrol/guidelines/environmental/index.html

CDC Guideline for Infection Prevention & Control in Dental Settings: www.cdc.gov/oralhealth/infectioncontrol/index.html

CDC Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings (2007): www.cdc.gov/infectioncontrol/guidelines/isolation/index.html

CDC Guidelines for Preventing the Transmission of Mycobacterium tuberculosis in Health-Care Settings (2005): www.cdc.gov/mmwr/preview/mmwrhtml/rr5417a1.htm

CDC "Pink Book" - Epidemiology and Prevention of Vaccine-Preventable Diseases: www.cdc.gov/vaccines/pubs/pinkbook/index.html

CDC Recommended Vaccines for Healthcare Workers: www.cdc.gov/vaccines/adults/rec-vac/hcw.html

CDC Respiratory Hygiene/Cough Etiquette in Healthcare Settings: www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm

Other Resources

Selected EPA-registered Disinfectants: www.epa.gov/pesticide-registration/selected-epa-registered-disinfectants

OSHA Best Practices for Hospital-Based First Receivers of Victims from Mass Casualty Incidents Involving the Release of Hazardous Substances: www.osha.gov/dts/osta/bestpractices/html/hospital_firstreceivers.html

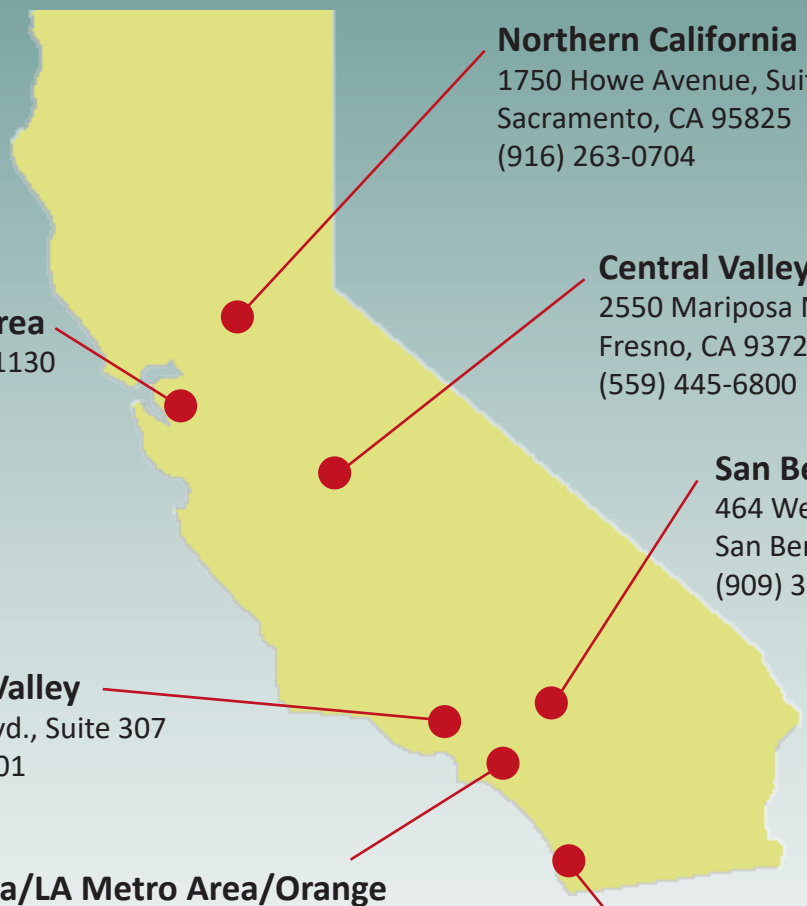
OSHA Respiratory Protection Program Toolkit for Hospitals: www.osha.gov/Publications/OSHA3767.pdf

Title 17 CCR Division 1, Chapter 4, Reporting to the Local Health Authority: https://govt.westlaw.com/calregs/Document/I5849DB60A9CD11E0AE80D7A8DD0B623B?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=(sc.Default)

Cal/OSHA Consultation Programs

Toll-free Number: 1-800-963-9424 **Internet: www.dir.ca.gov**

On-site Assistance Program Area Offices



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