Northridge Hospital Medical Center Policy and Procedure

SUBJECT: AEROSOL TRANSMISSIBLE DISEASE (ATD) EXPOSURE CONTROL PLAN

ASSOCIATED DOCUMENTS: None

Policy Number: 1132

DEPARTMENTS: All patient care departments

INTRODUCTION

Employers who fall within the scope of Cal-OSHA's Aerosol Transmissible Diseases (ATD) compliance requirements must establish and comply with an effective, written Aerosol Transmissible Diseases Exposure Control Plan (ECP). The ECP contains information about how this facility:

- Defines healthcare workers who are at risk of occupational ATD exposure
- Identifies suspect or confirmed ATD cases
- Isolates, or controls exposures, when a suspect or confirmed infectious ATD patient is identified
- Minimizes healthcare worker exposure to ATD
- Alerts healthcare workers to hazards
- Screens healthcare workers for Tuberculosis (TB)
- Evaluates healthcare workers post ATD exposure
- Protects healthcare workers during high risk procedures
- Uses engineering controls to reduce the likelihood of ATD exposure
- Maintains engineering controls
- Uses respirators
- Provides healthcare worker ATD training

Northridge Hospital Medical Center has implemented this ATD Exposure Control Plan (ECP) to:

- Reduce the risk of healthcare worker, patient, and visitor exposure to aerosol transmissible diseases.
- Meet the intent of the Centers for Disease Control and Prevention (CDC) Guidelines for Preventing the Transmission of *Mycobacterium tuberculosis* in Health-Care Settings, 2005.
- Facilitate compliance with health department regulations, and federal and state Occupational Safety and Health Administration (OSHA) regulations.

FACILITY RISK ASSESSMENT

Assessing the facility's risk for *Mycobacterium tuberculosis* and other aerosol transmissible diseases transmission is an important component of this exposure control plan. The CDC and Cal-OSHA recognize that this risk is not equal in all facilities. The risk level of the population treated and the risk level of the community itself will vary. These factors affect

the likelihood of disease transmission in a facility, and therefore, the level of disease control intervention necessary. The intensity of patient screening efforts, frequency of healthcare worker purified protein derivative (PPD) skin testing, use of respirators, and facility use of engineering controls such as negative pressure isolation rooms, will also vary depending on the risk level of the facility. Facility efforts will be directed at early identification of and appropriate intervention for patients with possible TB and other ATD.

Diseases and pathogens of concern include, but are not limited to:

- Aerosolizable spore-containing powder or other substance that is capable of causing serious human disease
- Avian influenza (strains capable of causing serious disease in humans)
- Measles
- Mycobacterium tuberculosis
- Monkeypox
- Novel or unknown pathogens
- Severe Acute Respiratory Syndrome (SARS)
- Smallpox / Variola virus
- Any other disease for which public health guidelines recommend airborne infection isolation.

The following information was used to calculate this facility's TB risk level:

- The prevalence of patients who have risk factors for TB such as foreign-born from a country with high rate of TB, homeless, intravenous drug use, history of TB, correctional facility within the last 2 years, etc.
- The number of active TB cases treated at this facility in the last 12 months
- The number of healthcare worker PPD conversions in the last 12 months
- The prevalence of multi-drug resistant TB
- The prevalence of HIV infection
- Healthcare worker and physician adherence to the TB infection control program
- The use of high risk procedures, such as sputum induction and bronchoscopy
- Effectiveness of engineering controls (such as ventilation, filters, ultraviolet germicidal irradiation (UVGI), local exhaust devices

Responsibilities:

- Infection Prevention & Control Committee – To facilitate full compliance with all provision of this ECP.
- Infection Prevention & Control & Occupational Health & Safety – To perform the risk assessment annually and to revise the ECP as needed
- Infection Prevention & Control Committee – To review and approve facility risk-assessment and ECP
- Education Department & Infection Prevention & Control Committee – To provide facility-wide TB education and documentation of education
- Infection Prevention & Control Staff – To monitor compliance with the ECP and report compliance issues for resolution
- Occupational Health & Safety – To develop, implement and maintain a TB screening program for healthcare workers, physicians, volunteers and other non-employees
- Facilities Department – To monitor and maintain engineering controls

- All Healthcare Workers – To comply with all elements of the ECP including attending education sessions, obtaining required screening, using respirators when indicated, using safe work practices and reporting all TB exposures
- Occupational Health & Safety Department & Safety Officer – To administer and maintain the Respiratory Protection Program

EMPLOYEE CATEGORIES AT RISK FOR ATD

All healthcare workers in the facility who share air with patients who may have infectious TB or other ATD are considered to be at risk for exposure. At risk healthcare worker categories include those working in the following departments:

- Critical Care Unit
- Pediatric Intensive Care
- Neonatal Intensive Care
- Telemetry
- Medical/Surgical
- Orthopedics
- Pediatrics
- Rehabilitation
- Emergency Department
- Diagnostic Imaging
- Labor & Delivery
- Perioperative Services
- Cardiac Cath Lab
- Cardiology
- Care Coordination
- Clinical Dietitians
- Respiratory Therapy
- Renal Dialysis
- GI Lab
- Physical Therapy
- Speech Therapy
- Occupational Therapy
- Rehab Psychology
- Patient Transport
- Family Practice Residency
- Security
- Patient Registration
- Spiritual Care
- In-House Registry
- Infection Prevention and Control

In addition, the following healthcare workers are considered to be at risk for exposure:

- Laboratory – Lab Assistants, Medical Technologists & Technicians with contact with AFB specimens
- Environmental Services – Supervisors and employees assigned to patient care units
- Food Service Workers

- Plant Operations – Engineers
- Medical Records – Birth Certificate Technicians

Registry and Contract Personnel
Department Leadership Team will confirm that registry and contract healthcare workers have received ATD education, TB screening, and respirator fit testing (if needed) from their employer. Supervisors will provide these healthcare workers with any facility-specific ATD exposure control information necessary for them to safely perform their work.

INFECTION PREVENTION AND CONTROL
Definition of a Suspect or Confirmed TB Patient
An individual will be suspected of having infectious TB (unless the individual's condition has been medically determined to result from a cause other than TB) if it is determined that the individual:

- Is known, or with reasonable diligence should be known, to be infected with TB and has signs and symptoms of pulmonary or laryngeal TB.
- Has a positive acid-fast bacilli (AFB) smear or any other positive test result, which was obtained for the purpose of diagnosing pulmonary or laryngeal TB (e.g. chest x-ray indicative of pulmonary TB or nucleic acid amplification test [NAAT]).
- Has a persistent cough lasting 3 or more weeks and two or more symptoms of active TB (e.g. bloody sputum, night sweats, weight loss, fatigue, fever, anorexia).
- Has a history of IV drug use, HIV infection, or alcohol abuse, is foreign-born from a country with a high rate of TB, is homeless or is a current or former correctional facility inmate, suffers from poor nutrition or other medical conditions which increase the risk of progression from latent to active disease.

Definition of a Suspect or Confirmed ATD
An aerosol transmissible disease is:
A disease transmitted through dissemination of airborne droplet nuclei, small particle aerosols, or dust particles containing the disease agent for which Airborne Isolation is recommended by the CDC or California Department of Public Health (CDPH)

- A disease process caused by a novel or unknown pathogen for which there is no evidence to rule out with reasonable certainty the possibility that the pathogen is transmissible through dissemination of airborne droplet nuclei, small particle aerosols, or dust particles containing the novel or unknown pathogen
- Symptoms will vary according to the disease or pathogen, but healthcare workers should be diligent about screening patients with fever accompanied by cough, body aches, chills, sweating, weakness, malaise, sore throat, or congestion. Contact Infection Prevention and Control if you have questions or concerns.

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Identification
Efforts to identify suspect or confirmed infectious TB patients, or patients with other ATD, will begin as soon as the patient enters the facility. All facility healthcare workers are encouraged to identify patients who are coughing. Registration healthcare workers are encouraged to ask simple questions such as, “How long have you had that cough?" or “Do you have any symptoms other than your cough?” Patients with a cough for more than 3 weeks (not explained by noninfectious conditions) or other signs and symptoms of ATD will be immediately referred to triage healthcare workers.

Masking the Patient
Individuals identified with a suspect or known infectious ATD must wear a surgical mask when not in a negative pressure isolation room. The purpose of the mask is to block aerosols produced by coughing, talking, breathing, etc. A surgical mask on a cooperative patient provides adequate short-term protection. Masks will be changed when damp, and patients will be monitored to confirm compliance.

Segregating Suspect TB Patients
Masked patients will be escorted to a private waiting area or exam room, if possible, to avoid embarrassment and concern. The Emergency Room contains at least one airborne infection isolation room (AIIR).
The following room(s) have been designated for isolation of suspect or known infectious ATD patients:

- Emergency Department –Rooms #C12, #C14, #C15
- XRay Room #8 (Endoscopy room)
- PACU – Room #20
- 2G – Rooms #2201 - #2208, #2223 - #2224
- 2FARR – Rooms #2409, #2418
- 3F – Rooms #3103, #3106
- 3G – Room #3225
- 3FARR – Rooms #3409, #3410, #3423
- 3IFL – Room #3313
- 4F – Rooms #4103, #4106
- 4G – Room #4225
- 4FARR – Rooms #4409
- 5F – Rooms #5120, #5129

These rooms are negative pressure to the corridor, have dedicated exhaust directly to the outside of the building away from air intake vents, operable windows and doors, and have at least 6 air changes per hour (ACH). The room door will be closed when occupied by a suspect or known infectious ATD patient. A sign will be placed to alert healthcare worker to use proper precautions. The sign will read ***“Airborne Precautions –VISITORS: Report to Nurses’ Station Before Entering Room.”*** The signs are stored in the nurse’s station of each unit.

Visitors
Per CDC recommendation, visitors should be discouraged from visiting patients. Individuals that visit patients with a suspected or confirmed ATD should be offered the "duckbill" N-95 respirator and should be instructed by a healthcare worker on the use of the respirator before entering a negative air flow room. ONLY visitors are allowed to wear these respirators. Healthcare workers are ONLY allowed to wear the respiratory protective equipment that was approved for them by Occupational Health.

Fast Tracking
Suspect or known infectious ATD patients who require a medical test or procedure will be accompanied to departments and will not wait in occupied waiting rooms. Communicating with the receiving department prior to the patient's arrival will minimize delays and facilitate appropriate notification of the receiving department. Whenever possible, tests such as electrocardiograms and lab work will be brought to the isolated patient, further reducing the risk of transmission.

Delay of High Risk Procedures
High-risk (cough inducing) procedures, which are not immediately required for diagnosis or treatment, will be delayed until the patient is no longer considered to be infectious for an ATD. If a high risk procedure cannot be delayed, then the healthcare worker performing the procedure must wear a PAPR.

Respiratory Etiquette
Respiratory etiquette kits will be provided to appropriate patients in waiting rooms in the facility. Nursing and registration healthcare workers are trained, and are encouraged, to provide respiratory etiquette kits and remind patients to cover coughs.

HEALTHCARE WORKER EDUCATION
Effective ATD training for healthcare workers is provided as mandated by Cal-OSHA and recommended by the CDC. Training is offered to healthcare workers during regular work hours, at hire, and annually. The healthcare worker completes a post-test at the end of the session to confirm understanding of class content.
The following topics are included in healthcare worker ATD education:

- Where to get a copy of the ECP if desired.
- Groups at risk for occupational ATD, especially immunocompromised healthcare workers.
- Modes of ATD transmission.
- Symptoms of TB and other ATD.
- TB screening and preventive therapy for TB
- MDR TB.
- Procedure for segregating or isolating a suspect or known infectious ATD patient.
- Employer and healthcare worker responsibilities under the ATD ECP.
- Use and limitations of methods that will prevent ATD exposure including administrative and work-practice controls, engineering controls, and respirators.
- Decontamination and disposal of respirators.

The educational session includes information about who to contact for questions concerning tuberculosis and other ATD.

Healthcare Workers Required to Attend ATD Education
All facility healthcare workers who are at risk of occupational exposure to ATD are required to attend ATD prevention education.

Educational Record Maintenance
Educational records will be maintained for 3 years.

HIGH RISK PROCEDURES
High-risk procedures induce coughing and may aerosolize *M. tuberculosis* and other ATD. Special precautions must be used to prevent occupational exposure when these procedures are performed on a suspect or known infectious ATD patient. Healthcare workers who assist with high-risk procedures in negative pressure isolation rooms will wear a NIOSH approved powered air purifying respirator (PAPR).
The following high risk procedures are performed ON SUSPECT OR KNOWN INFECTIOUS ATD PATIENTS at this facility

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The following high risk procedures are performed ON SUSPECT OR KNOWN INFECTIOUS ATD PATIENTS at this facility:

- Sputum induction – Negative pressure room with equal to or greater than 6 air changes per hour and exhaust direct to outside away from operable windows, doors and air intake vents
- Nebulizer treatments – Negative pressure room with equal
- Pentamidine treatment – Negative pressure room with equal to or greater than 6 air exchanges per hour and exhaust direct to outside away from operable windows, doors and air intake vents
- Bronchoscopy – Negative pressure with equal to or greater than 12 air exchanges per hour, exhausted directly outside away from operable windows, doors and air intake vents
- Aerosol breathing treatments – Negative pressure equal to or greater than 6 air exchanges per hour, exhausted directly outside away from operable windows, doors and air intake vents
- Open airway suctioning – Negative pressure equal to or greater than 6 air exchanges per hour, exhausted directly outside away from operable windows, doors and air intake vents

- Pulmonary Function Test - Negative pressure equal to or greater than 6 air exchanges per hour, exhausted directly outside away from operable windows, doors and air intake vents
- Intubation and CPR - If possible a PAPR is recommended but in case of an emergency, an N95 is acceptable.

N-95 Respirators
Healthcare workers are required to wear a NIOSH approved N-95 while performing the following tasks:

- Entering a patient room that requires Airborne Isolation
- Performing nasopharyngeal swabs for identification of an ATD
- Collecting sputum cultures on a patient suspected or confirmed with an ATD
- When triaging a patient suspected or known to have an ATD
- When processing patient samples & cultures in Microbiology
- At any time, a healthcare worker can choose to use a higher level of protection and can voluntarily choose to use an N95 instead of a surgical mask or a PAPR instead of an N95.

HEALTHCARE WORKER TB SCREENING
All healthcare workers will be screened for TB at hire and at least annually thereafter. Contract healthcare workers and students must provide proof of TB screening that meets this facility's requirements prior to assignment. Licensed Independent Practitioners (LIP) will comply with Medical Staff Office requirements and may obtain screening through Occupational Health & Safety Department.

Symptom Screen
All personnel will be screened at hire and at least annually for TB symptoms such as:

- Persistent cough of at least 3 weeks duration
- Fever, night sweats
- Fatigue or weakness
- Unexplained weight loss, loss of appetite
- Hemoptysis

Symptomatic Healthcare Workers
Healthcare worker signs or symptoms of TB will be evaluated promptly for TB. The healthcare worker will not return to work until:

- The diagnosis of active TB has been ruled out; **or**
- Active TB is diagnosed, treated, and the individual is determined to be noninfectious as defined below:
- Has 3 consecutive negative AFB sputum smears obtained on 3 different days; **and**
- Has completed at least 2 weeks of multi-drug anti-tuberculosis therapy if ever sputum smear positive, or 4 days of multi-drug anti-tuberculosis therapy if always sputum smear negative; **and**
- Exhibits clinical improvement; **and**
- Has continued medical supervision

Mantoux Tuberculin Test
New hires with a documented history of negative or unknown PPD skin test will participate in the 2-step TB skin testing, which must be completed within 30 days of hire and again within one year. The Occupational Health & Safety Department will place PPD skin tests. The Occupational Health & Safety Department or the Laboratory, will read skin test results at 48-72 hours. Healthcare workers may not self-read their PPD skin test.

Two-Step Testing
Two-step testing is used to detect healthcare workers with distant TB infection, who now have diminished skin test reactivity. It reduces the likelihood that a boosted reaction will later be interpreted as a new infection in healthcare workers who are periodically tested.

- Two-step testing is performed on all new healthcare workers who have an initial negative PPD skin test at the time of employment, and have not had a documented PPD skin test in the preceding 12 months.
- The second test is placed 1-3 weeks after the initial test. Healthcare workers, who have a negative reaction to the first test, and a negative symptom screen, may start work before the second test is placed, at the discretion of Occupation Health & Safety.

Past Positive PPD
Healthcare workers and volunteers who have a documented previous positive PPD skin test, are required to have a baseline chest x-ray at hire or provide documentation of a normal chest x-ray taken up to 6 months prior to hire. If the symptom screen reveals signs or symptoms of TB, the healthcare worker will be referred to the primary care physician.

The healthcare worker with history of positive PPD but no documentation will be tested with Quantiferon.

The chest x-ray will be repeated only if the healthcare worker develops signs or symptoms of TB.

Screening is completed, at least annually, via a symptom review form. The symptom review form will be completed whenever a PPD skin test would be required of a healthcare worker with a negative PPD.

BCG Vaccination
A history of previous vaccination with Bacillus Calmette-Guerin (BCG) does not alter PPD skin testing protocols. Criteria for reading PPD skin tests, and indications for treatment, are unchanged.

Definition of a Positive Test for Health-Care Workers
Skin test results are always recorded in millimeters (mm) of induration, not as positive or negative. A PPD skin test with no induration is recorded as 0 mm.

5 mm is considered positive in:

- Persons known or suspected of having HIV infection
- Persons who use IV drugs (if HIV status unknown)
- Persons who have had contact with an infectious case of TB
- Persons with abnormal chest radiograph, but no evidence of active TB.

10 mm is considered positive in:

- All other persons in California
- Persons with medical conditions that increase risk of TB disease
- Persons who use intravenous drugs (if known HIV negative)
- Foreign-born persons from areas where TB is common
- Medically underserved, low income populations
- All healthcare workers of healthcare facilities where TB patients receive care.

Tuberculin Skin Test Conversion

A PPD skin test conversion is defined as a change from a documented negative to a documented positive test.

Frequency and Timing

All facility healthcare workers who work in areas where air may be shared with suspect or known infectious TB patients must be screened for TB at least annually.

This facility has been assessed using the CDC's ***Protocol for Conducting a Risk Assessment in a Health-Care Facility,*** and is classified as a **moderate risk facility**. Employees will be tested every 12 months and following any unprotected exposure to an infectious TB patient.

Evaluation of PPD Conversion

Any healthcare worker or volunteer with a PPD conversion will have a chest x-ray within one week, be evaluated by Occupational Health & Safety and referred to a pulmonary or infectious disease doctor or the healthcare worker's primary physician if not industrial related.

Employee with Active TB

If the history, physical examination or CXR are compatible with active TB, the healthcare worker will be excluded from the workplace until:

- The diagnosis of active TB has been ruled out; **or**
- Active TB is diagnosed, treated, and individual is determined to be noninfectious as defined below:
- Has 3 consecutive negative AFB sputum smears on 3 different days; **and**
- Has completed at least 2 weeks of multi-drug anti-tuberculosis therapy if ever sputum smear positive, or 4 days of multi-drug anti-tuberculosis therapy if always sputum smear negative, **and**
- Exhibits clinical improvement; **and**
- Has continued medical supervision

TB Screening Record Maintenance
All healthcare workers and volunteers will receive a copy of their skin test result and interpretation upon request. The facility's copy of the PPD form is maintained in the employee's confidential health file. Records will be maintained by Occupational Health and Safety Department.
Work related PPD conversions and confirmed active TB cases will be recorded on the OSHA Log; non-industrial / community-acquired TB conversions and active TB are not documented on the OSHA Log.

Facility PPD Conversion Rates
The facility PPD conversion rate is calculated every 12 months to assess the level of occupational risk. An epidemiological investigation will be conducted following any healthcare worker PPD skin test conversion.
The Infection Prevention and Control Committee will interpret data. If identified as a work related exposure, the committee will identify factors that could have contributed to transmission and infection, and recommend implementation of appropriate interventions.

Compliance
Compliance with the TB screening program and post-exposure follow-up is mandatory for all healthcare workers. Occupational Health and Safety Department will notify department leadership when screening is due. Healthcare workers will have until the end of the month when it is due to complete the screening process. Failure to comply will result in disciplinary action up to, and including termination.

Healthcare Worker Exposure and Follow-up
Healthcare workers may be inadvertently exposed to ATD during the course of their work.

Exposure Definition
An exposure is defined as an event in which the healthcare worker has been exposed to an individual who has a suspect or known aerosol transmissible disease, or to a work area or equipment that is reasonably expected to contain aerosol transmissible pathogens and the exposure occurred without the benefit of applicable exposure controls and it reasonably appears from the circumstances of the exposure that transmission of disease is sufficiently likely to require medical evaluation.
A healthcare worker exposed to an aerosol transmissible disease does not necessarily become infected. Healthcare workers who have utilized appropriate precautions are not considered to have been exposed.

Contact Investigation
The Infection Prevention and Control staff is responsible for contact investigation following any known occupational ATD exposure. The contact investigation will begin when a suspected case is identified (e.g. sputum smear is positive for AFB, and culture is pending). The contact investigation will include interviews with the work area supervisor and the index patient, if possible. A thorough review of the patient's medical record will determine if the

patient was transported to the facility, had lab work done, visited radiology, or was interviewed by screening or counseling healthcare worker.

Screening Following Exposure to other Aerosol Transmissible Disease
Occupational Health & Safety personnel will notify healthcare workers who had exposures of the date, time, and nature of the exposure within a timeframe that is reasonable for the specific disease (and meets regulatory standards). Occupational Health and Safety will maintain exposure records for all healthcare workers involved in an exposure analysis, including records for healthcare workers not requiring post-exposure follow-up because they did not meet the exposure parameters or were immune to the illness.

Analysis of all exposure events will be made available to the local public health officer upon request.
As soon as feasible, an appropriate post-exposure screening will be provided to all healthcare workers involved in the exposure incident. Where indicated, appropriate diagnostic studies, vaccination, prophylaxis and/or treatment will be rendered. Healthcare workers will be informed of the results of their evaluation and any recommendations regarding follow-up.
The Occupational Health and Safety Department will advise the healthcare worker if precautionary removal from work or transfer to an alternative work assignment is necessary and will collaborate with Human Resources to confirm that all applicable healthcare worker rights and benefits are protected.

Screening Following Exposure to MTB
The Occupational Health and Safety staff is responsible for PPD skin testing and symptom screening of healthcare workers following occupational exposure to TB. A baseline PPD skin test (for PPD negative healthcare workers), and symptom screen will be administered to exposed healthcare workers within one week of exposure confirmation. Healthcare workers who have had a negative PPD skin test within the last 3 months (we do one month) may use that test and a new TB symptom screen form as a baseline. Baseline status of healthcare workers with past-positive PPD skin tests will be established by completion of a TB symptom screening form.
If the baseline PPD skin test is negative, a second test and symptom screen will be performed 8 weeks after the date of the last known exposure. Healthcare workers with past positive PPD skin tests will again complete a TB symptom screening form.

Evaluation of PPD Conversion
Any healthcare worker with a PPD conversion will have a chest x-ray within one week, and be evaluated by a pulmonary or infectious disease specialist or their primary physician if non-industrial.

Follow-up and Tracking
Occupational Health and Safety and Infection Prevention and Control will track required follow-up care (i.e., chest x-ray, initial follow-up medical evaluation, and confirmation of report to Public Health Department).

If the history, physical examination, or CXR is compatible with active TB, the healthcare worker will be excluded from the workplace until:

- The diagnosis of active TB has been ruled out; - **or**
- Active TB is diagnosed and treated, and the individual is determined to be non-infectious as previously defined.

HEALTHCARE WORKER ATD EXPOSURE FOLLOW-UP:

Occupational Health & Safety and/or Infection Prevention & Control – Identifies healthcare workers occupationally exposed to TB by interviewing patient, area supervisor and reviewing chart

Occupational Health & Safety – Interviews identified healthcare workers to confirm exposure

Occupational Health & Safety – Organizes and tracks screening and PPD testing

Occupational Health & Safety – Places and interprets PPD tests. Completes skin test form

Occupational Health & Safety – Evaluates ATD symptom screening forms

Occupational Health & Safety – Refers healthcare worker with PPD conversion or TB symptoms is referred for further evaluation or other screening required

Occupational Health & Safety – Coordinates medical management and follow-up as needed

Occupational Health & Safety – Records occupational TB infections/PPD conversions and active disease on OSHA Log and Completes required paperwork

Occupational Health & Safety and Infection Prevention & Control – Assures that healthcare workers with suspect or known infectious TB do not return to the workplace until non-infectious

Infection Prevention and Control – Notifies Public Health of TB cases and PPD conversions as required or other ATD as directed by Public Health.

ADMINISTRATIVE CONTROLS

Administrative controls include:

- Developing effective ATD control policies and procedures
- Ensuring prompt identification, isolation, evaluation and treatment of persons likely to have ATD
- Implementing effective work practices
- Educating and counseling healthcare workers about ATD
- Screening healthcare workers for TB infection and other ATD

ENGINEERING CONTROLS

Engineering controls can prevent the spread of infection by reducing the concentration of infectious droplet nuclei.

The following engineering controls are in place in this facility:

- This facility uses a single-pass air system (air is not re-circulated, 100% of supply air comes directly from outdoors and all air from these areas is exhausted).
- Negative pressure isolation rooms are available for isolating suspect or known infectious ATD patients.

Maintenance, Monitoring and Communication
Mechanical equipment is inspected and maintained at least yearly, and as needed.

- Filters are inspected at least quarterly and changed annually or more often if necessary.
- The negative pressure of isolation rooms is checked continuously by alarm when in use.
- Facilities and Infection Prevention and Control work as a team to control ATD. Maintenance issues and monitoring results are promptly communicated.
- Results of air balance reports and negative pressure room checks are copied to Infection Prevention and Control.
- Shut-downs for maintenance of the ventilation system are coordinated with Infection Prevention and Control.
- Records of maintenance and monitoring are maintained for 3 years.
- The RN caring for the patient will perform a visual check and the engineer will conduct the smoke test of the negative pressure daily while the room is occupied by a patient with a suspect or known ATD.

VACCINATIONS
Occupational Health and Safety will offer the following vaccines to susceptible or at risk healthcare workers within 10 working days of initial assignment:

- MMR (Mumps, Measles, & Rubella)
- Tdap
- Varicella Zoster

The Influenza (Seasonal) Vaccination will be offered prior to / during flu season as recommended by the Department of Health.
Vaccination is not indicated for a healthcare worker:

- Who has previously received the recommended vaccination(s) and is not due to receive another dose
- Who is immune in accordance with applicable guidelines
- Where the vaccine is contraindicated for medical reasons

Healthcare workers who decline a vaccination may obtain the vaccination at a later date upon request.

CLEANING AND DECONTAMINATING
Routine cleaning and disinfection of equipment and the environment is sufficient. Rooms that have been occupied by patients with an aerosol transmissible disease should remain empty for one hour before another patient can occupy the room. Healthcare workers entering the room before the hour is over must wear an N95 respirator. No special laundry or dietary considerations are required.

RESPIRATORY PROTECTION

Respirators are used by healthcare workers in certain situations where the risk for occupation exposure to an aerosol transmissible disease may be significant.
This facility has been designated as a moderate risk setting for *Mycobacterium tuberculosis* exposure. Healthcare workers provide care to patients with TB or other aerosol transmissible pathogens, and may perform high-risk procedures such as sputum induction. A respiratory protection program has been developed and instituted to enhance healthcare worker safety.
Facility healthcare workers are required to wear a NIOSH-certified N-95 respirator when:

- In the presence of a suspect or confirmed infectious ATD patient who is unable or unwilling to wear a mask
- Entering a room, including an isolation room, which has been occupied by an unmasked suspect or confirmed infectious ATD patient, prior to the time required for 99% of the airborne contaminants to be removed from the room
- Transporting or accompanying a suspect or known infectious ATD patient in an enclosed vehicle, even if that patient is wearing a surgical mask
-

A PAPR must be used during high-risk procedures (e.g. sputum induction) unless the patient is enclosed in an effective local exhaust device.

RESPIRATORY PROTECTION PROGRAM

The written Respiratory Protection Program Policy is located in the Occupational Health and Safety Manual, Policy # 86600.1112. This policy includes instructions related to:

- Selecting and issuing respirators
- Healthcare worker training (including which healthcare workers are required to use respirators)
- Conducting fit tests and checks
- Inspecting respirators
- Cleaning, sanitizing, maintaining, and repairing respirators (if reusable respirators are used)
- Maintaining and storing respirators
- Respirator limitations
- Medical surveillance

PROGRAM EVALUATION

The ATD ECP will be reviewed at least yearly by the Exposure Control Sub-Committee. The review will include a reassessment of the facility's risk level, including an analysis of any healthcare worker exposures, healthcare worker conversions, or evidence of person-to-person transmission. Factors that may have contributed to exposures or transmission will be reviewed. Interventions to prevent reoccurrence will be implemented. The ECP will be amended to reflect these policy and/or procedure changes.

Any cluster of PPD conversions will prompt an immediate review and assessment of the ATD exposure control program.

Healthcare worker input regarding effectiveness of the ATD ECP will be solicited and reported annually.

The ATD ECP will be available through the online Infection Prevention and Control Department Policies and Procedure Manual.

REFERENCES:
California Code of Regulations, Title 8, Subchapter 7, Group 16, Article 109, Section 5199
Occupational Health and Safety Policy 86600.1112

Reviewed: 3/99, 6/03, 6/04, 6/05, 6/06, 5/07, 8/08
Revised: 10/98, 6/00, 6/01, 6/03, 6/04; 5/10; 10/10; 1/11, 12/11; 1/12, 2/13, 1/16, 5/17; 8/17 (visitor mask to generic)
Approved: CSRT- 5/31/17; Infection Control- 6/1/17; MEC- 6/26/17; CB- 7/11/17

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