Providence St. Joseph Health

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Owner:	*Rebecca Clarkson: Infection Preventionist*
Policy Area:	*Infection Prevention*
References:	
Applicability:	*PSJH LA Region*

Aerosol Transmissible Disease (ATD) Exposure Control Plan

In keeping with the mission and values of Providence Health & Services, it is the policy of Providence Health System-Southern California to adopt this regional clinical standard for use in the following*:

Providence Little Company of Mary Medical Center Torrance:	
X	Acute Care
X	Transitional Care Center
X	Providence Little Company of Mary Home Health
Providence Little Company of Mary Medical Center San Pedro:	
X	Acute Care
X	Sub-Acute Care Center
X	Psychiatric Unit
X	Acute Rehabilitation
X	Chemical Dependency Unit
Providence Holy Cross Medical Center:	
X	Acute Care
X	Sub Acute Care Unit
X	Rehabilitation Unit
Providence Saint Joseph Medical Center:	
X	Acute Care
X	Providence Home Care
X	Providence St. Elizabeth's
X	Rehabilitation Unit
X	Roy and Patricia Disney Family Cancer Center
Providence Tarzana Medical Center:	
X	Acute Care
Providence Saint John's Health Center:	

	Acute Care

*An "x" identifies inclusion and the absence of an "x" indicates exclusion or exception.

POLICY

In keeping with the philosophy and mission of Providence Health & Services the California Region shall implement patient assessment, engineering work practice controls and provide personal protective equipment to minimize employee exposure to Aerosol Transmissible Diseases (ATDs).

Responsibility for implementation and annual review of this plan: Epidemiology & Infection Prevention (Lead), Occupational Safety, Health & Wellness; Education. The plan will be reviewed annually with involvement from patient care staff.

The purpose of this policy is to prevent transmission of Aerosol Transmissible Diseases (*ATDs*) from an infected individual to a susceptible host. Examples of the disease in this category include TB, measles, Severe Acute Respiratory Syndrome (*SARS*), monkey pox, smallpox (*Variola*), chicken pox (*Varicella*), novel or unknown ATDs. The following is a written exposure control plan designed to identify and protect all individuals from exposure to ATDs to ensure compliance with regulatory agencies.

DEFINITIONS

- ***Air Change*** – a replacement of the air contained by a room or enclosure with an equal quantity of fresh air or HEPA filter air
- ***Anergy test*** – a skin test to assess the competence of the body's immune system by evaluating delayed type hypersensitivity (*DTH*). The test shall include mumps and at least one additional DTH skin test antigen, unless an equally effective testing procedure
- ***Confirmed Infectious TB case –*** a person who has been diagnosed with pulmonary or laryngeal TB by positive culture of body fluid or tissue, unless medically determined to be non-infectious
- ***Emergency personnel*** – an emergency medical technician, paramedic, ambulance attendant, firefighter, or peace officer
- ***Exposure incident*** – an event in which an employee sustains substantial exposure to a confirmed infectious ATD case, or to a suspected infectious ATD case who is determined to have been an infectious ATD case at the time of the incident, without the benefit of all applicable exposure control measures. In determining whether the event involves substantial exposure, the following factors shall be taken into account, the infectiousness of the exposure source, the extent to which the employee was protected from exposure, and the length of the exposure event
- ***HEPA*** – in reference to a filter, delivering high efficiency particulate air filtration which is 99.97 percent efficient against 0.3 micrometer monodisperse dioctyl phthalate (*DOP*) particles
- ***High-risk procedure*** –
  - aerosolized pentamidine administration and sputum induction
  - a procedure performed on a suspect or confirmed infectious ATD case which can aerosolize body fluids likely to be contaminated with ATD bacteria including, but not limited to:
    - operative procedures such as tracheotomy, thoracotomy, or lung biopsy
    - respiratory care procedures such as tracheotomy or endotracheal tube care
    - diagnostic procedures such as bronchoscopy and pulmonary function testing
    - resuscitative procedures performed by emergency personnel
  - an autopsy or pathology procedure performed on a body or on tissues suspected to be infected with ATD

- ***HIV –*** the human immunodeficiency virus, the cause of Acquired Immunodeficiency Syndrome (*AIDS*)
- ***Isolation enclosure*** - an enclosed space, other than a room or manufactured isolation unit, which is used to provide atmospheric isolation
- ***Isolation room*** – a room which is used to provide atmospheric isolation
- ***Isolation unit*** – a commercially available apparatus which is used to provide atmospheric isolation
- ***Licensed healthcare professional*** – a person whose legally authorized scope of practice allows him or her to provide the medical evaluation or preventive therapy required
- ***Local exhaust ventilation*** – ventilation provided by device, e.g., an enclosed or semi-enclosed exhaust hood, booth, or tent, which removed airborne contaminants at or near their source
- ***Patient*** – a person present for the purpose of medical evaluation or treatment
- ***Source case*** – either a suspect of confirmed ATD case
- ***Suspect Infectious TB case*** –
  - a person who
    - is known, or with reasonable diligence should be known by te hospital to be infected with TB, and has signs or symptoms of pulmonary or laryngeal TB
    - has a positive acid-fast bacilli (*AFB*) smear obtained for the purpose of diagnosing pulmonary or laryngeal TB
    - meets the criteria developed by the hospital Question does each hospital have a policy that ID's the criteria? Can this be regionally agreed upon?
  - A suspect infectious TB case is neither a confirmed infectious TB case nor any person who has been medically determined to be non-infectious
- ***TB***– tuberculosis
- ***TB bacteria –*** Mycobacterium tuberculosis, Mycobacterium bovis, or Mycobacterium africanum, the pathogens which cause human TB infection and disease
- ***TB Skin Test*** *(TST*) – a test for TB infection using the Mantoux technique (*intradermal injection of 0.1 milliter of five tuberculin units of purified protein derivative, or PPD*)

EQUIPMENT

- N-95 respirator mask
- Powered air purifying respirator (PAPR)
- Surgical/procedure mask
- Tissues
- CAL-OSHA 300 Log

PROCEDURE/GENERAL INSTRUCTIONS

Exposure Control Plan

1. **Patient Assessment**

   A. Rapidly identify known and suspected cases of aerosol transmissible disease by screening patients for symptoms on initial encounter or before admission. Signs and symptoms shall include symptoms of upper respiratory infection such as nasal congestion, sore throat, persistent cough *(>3 weeks duration*), bloody sputum, night sweats, unexplained weight loss, anorexia, fever (*100.4 or higher*), chills, recent TB exposure, or past TB diagnosis with above symptoms (*TB*), or per CDC, CDPH, or other appropriate agency guidelines.

   B. Promptly initiate appropriate precautions on suspect cases, per current guidelines and policy. Place suspect cases in a special waiting area in outpatient, emergency rooms, clinics, or take directly to

exam room. Provide the patient with a surgical mask and tissues with instructions for their use. If admitted to the acute hospital, place in Airborne Precautions (*ATD suspect*), Contact and/or Droplet Precautions.

C. Microbiology shall provide rapid processing and reporting of acid-fast smear, culture/sensitivity results, and other related Microbiology findings. Some specimens may be sent to an outside laboratory.

2. **Communication**

   A. Patients with signs and symptoms of ATDs are identified and placed in appropriate setting and isolation upon admission.

   B. Isolation status is communicated to ancillary departments through a ticket-to-ride tool or other department-specific hand-off process.

   C. Based on current CDC recommendations, suspected or confirmed cases of reportable ATDs are reported to LA County Department of Public Health. Should those phone numbers be placed here?

3. **Atmospheric Isolation**

   A. Any patient who is a rule out or confirmed infectious for Aerosol Transmissible disease will be placed in Airborne Precautions and transferred to a negative pressure room as soon as possible, as appropriate.

   B. Isolation rooms and enclosures shall at all times while occupied by any source case, be provided with dilution ventilation, HEPA filtration of the air, or both in combination, to effect a rate of at least twelve (12) room air changes per hour.

   C. Negative Pressure isolation rooms and enclosures are constantly monitored by indicators with alarms to determine that air moves from all adjacent areas into the room or enclosure.

   D. All rooms used as hospital emergency rooms, hospital admitting or waiting areas for patients who are to undergo high risk procedures shall be provided with dilution ventilation, HEPA filtration of the air, or both in combination, to effect a rate of at least ten (10) air changes per hour.

   Each hospital is equipped with designated Negative Pressure rooms for isolation purposes

4. **Decontamination**

   A. Equipment will be decontaminated per policy.

   B. Disposable PPE and other devices will be appropriately disposed of according to infection prevention procedures.

5. **High Risk Procedures**

   A. All high-risk medical procedures will, to the extent feasible, be performed in conjunction with:

      1. effective local exhaust ventilation, and
      2. dilution ventilation or HEPA filtration at a rate of greater than twelve (12) room air exchanges per hour, and
      3. Use of a PAPR
      4. Use of any other Personal Protective Equipment required for that ATD.

6. **Contaminated Air**

   A. To the extent feasible, all potentially ATD-contaminated air from isolation rooms (*or local exhaust*

systems such as from enclosed booths) will be directly exhausted to the outside of the building.

B. Air which is not directly exhausted outside shall be HEPA-filtered before recirculation.

C. Exhaust air outlets shall be positioned so that contaminated air does not enter the building.

7. **Lab Bio-Safety**

   A. As required, a Biological Safety Officer, qualified by training, is assigned to evaluate hazards associated with laboratory procedures involving ATP-L.

8. **Personal Protective Equipment**

   A. Employees will use recommended personal protective equipment in the following situations:

      1. When in a room where a patient is undergoing, or has undergone within the past hour, any high-risk medical procedure.
      2. When in an isolation room which is occupied or has been occupied within the past hour, by a suspect or confirmed infectious ATD case.
      3. When in the presence of an unmasked source case.
      4. When changing filters in a HEPA filtration machine or ventilation ducts used to remove ATD bacteria.
      5. When the suspect or confirmed infectious ATD case is not in appropriate isolation to the extent feasible and consistent with sound medical practice, the patient will wear a surgical mask.
      6. The hospital shall ensure, whenever feasible, that no employee utilizes or is exposed to a decontamination procedure which may aerosolize body fluids containing ATD bacteria or virus.
      7. Any area in which a suspect or confirmed infectious ATD case is placed shall be posted with a sign to allow employees to easily identify the hazard of potential ATD exposure.
      8. The hospital shall provide for employees, a respiratory protection program that includes medical evaluation, training, fit testing and periodic program evaluation.

9. **Staff Vaccination**

   A. As part of the On-Boarding Health Screen staff must provide proof of immunization for vaccine preventable diseases including: Measles, Mumps, and Rubella. In the absence of documentation of vaccination, blood lab test for immunity and will be drawn and notified in writing of susceptibility status. Vaccines will be offered free to all employees as needed.

   B. Those with no history of Varicella disease may be tested for immunity and referred to their primary physician for vaccination.

   C. Tdap vaccination will be offered to employees per the CDC and CA DPH guidelines.

   D. Employees who need a Tetanus booster related to an injury are given the Tdap vaccine.

   E. Employees whose job duties include providing direct care, who choose to sign a waiver of vaccination understand that they are subject to a medical furlough should they be exposed to a disease that requires removal from patient care duties or if Providence medical facility experiences an outbreak of the aforementioned communicable diseases.

      All employees and volunteers are offered, free of charge, an annual influenza vaccine. If an employee or volunteer does not get vaccinated, he/she must provide a written declination to include reason for declining. If employees/volunteers have received their vaccination at another facility then

they must notify OSHW that it was completed.

10. **Surveillance and Employee Notification**

    A. TB Skin Testing/or Q Gold lab test

        1. Employees', who have a previously documented negative tuberculin skin test within the last twelve (12) months, will receive a Quantiferon TB Gold blood test upon hire.
        2. Based on the individual hospital's annual TB risk assessment, employees who have exposure to patients or have their work space in shared air with patients will receive a TB/ or Q Gold lab test skin test annually and for post-exposure surveillance.
        3. All TB/ or Q Gold lab test skin tests are administered and interpreted by a licensed healthcare professional.

    B. Written notification of the tuberculin skin test/ or Q Gold lab test results and interpretation shall be provided promptly to each employee tested. Notification shall include the following statement: *"HIV infection and other medical conditions may cause a tuberculin skin test to be negative even when TB infection is present. Persons with HIV infection and certain other medical conditions that may suppress the immune system are at significant risk of progressing to TB disease, if they have TB infection. If you have HIV infection or other medical conditions that may suppress the immune system, discuss your risk of TB disease with your primary care provider."*

    C. Anergy testing shall be provided on request or when medically indicated to any employee who receives a negative TB skin test result.

11. **Employee Exposure Evaluation and Preventive Therapy (Employee)**

    A. TB exposures:

        1. Occupational Safety, Health & Wellness shall provide the following services:
            a. Medical evaluation for any employee who is a suspect or confirmed TB case, as soon as reasonably possible, but no later than seven (7) days after discovery.
            b. Medical evaluation and preventive treatment for any employee who exhibits a TB skin test conversion/ or detected Q Gold lab test, within seven (7) days of discovery.
        2. Correlation of clinical, laboratory and radiographic data and/or physician's diagnosis will be used to determine suspect/infectious TB cases.
        3. Any employee who sustains an unprotected exposure to TB must immediately report to his/her supervisor who shall notify Occupational Safety, Health & Wellness and Infection Prevention to initiate immediate follow-up.
        4. Any employee who has sustained a TB exposure shall be promptly notified by the Occupational Safety, Health & Wellness. The employee will complete a TB Health Questionnaire as soon as possible after notification of exposure; then 8–10 weeks after the last date of exposure, the employee will have a TB skin test/ or Q Gold lab test and complete another TB Health Questionnaire, or as determined by LA County TB Control.
        5. Providence shall ensure that all required TB skin tests, medical evaluation and preventive therapy are made available to the employee at a reasonable time and place, under supervision of qualified healthcare professionals and at no cost to the employee.
        6. The employee shall first be offered and, upon request, be provided the option of medical evaluation and follow-up by a different healthcare professional than the employer.

B. See Occupational Safety, Health & Wellness policy & procedure for the criteria for healthcare workers beginning or returning to work after TB disease is suspected or confirmed. See policy CA-HR 4011

12. **Aerosol Transmissible Disease Exposure Investigation (*Staff and Patient*)**

A. Notification of staff Exposure:

1. Infection Prevention notifies OSHW and involved department manager(s).
2. Department manager or designee provides a list of employees who may have been exposed.
3. OSHW notifies employees and screens for exposure, including contract personnel, students, physicians, and volunteers.
4. If the diagnosis is ruled out, or if all appropriate PPE was used and no exposure is determined there will be no further action.
5. Staff that experiences a medical removal from work after an exposure to an ATD will continue to be paid as though they worked.

B. Notification of patient exposure:

1. Infection Prevention develops a list of potentially exposed patients and reviews the list with the appropriate managers.
2. Infection Prevention will telephone patients first to notify them of exposure, and then follow up with a letter, if necessary.
3. Infection Prevention will notify the exposed patient's treating physician of the exposure.
4. Infection Prevention will work with Interpreter services for voice contact as necessary.

13. **Notification of reportable Aerosol Transmissible Diseases (*RATDs*)**

A. See appendix A for list of reportable diseases (*RATDs*)

B. Infection Prevention will notify the appropriate public health agencies of any patient with diagnosed RATD.

C. Occupational Safety, Health & Wellness will notify employees, physicians, contract personnel and employers of other workers who might have been exposed (*ex: first responders, EMS, police, fire department personnel, etc*) to the extent that the information is available in our records.

14. **Training**

A. ATD prevention training shall be provided to all employees before assignment to work which is reasonably anticipated to involve exposure to a suspect or confirmed infectious ATD case.

B. Materials for employee ATD prevention training must be appropriate in content and vocabulary for the educational level, literacy skills, and language ability of the employee.

C. Training shall address the following subjects:

1. Identification of individuals at increased risk for ATDs
2. Modes of ATD transmission and the difference between TB infection and disease
3. Symptoms and consequences of ATDs
4. The hospital and the employee's responsibilities and the hospital's policies and procedures to prevent ATD exposure, including an explanation of the employer's ATD Control Plan

5. Use and limitation of all methods used by the hospital to prevent ATD exposure
6. TB surveillance, including the criteria used to determine whether a tuberculin skin test result is positive, and the effect of HIV infection and other medical conditions on the interpretation of the result

D. Training shall be conducted in a manner that informs employees of where to go to ask questions and receive answers.

E. Training shall be repeated at least annually.

15. **Recordkeeping**

A. Occupational Safety, Health & Wellness shall document all TB skin tests, including the name or other identifier of the person tested, the date of the test, the result of the test in millimeters of induration, and the interpretation of the result.

B. Occupational Safety, Health & Wellness shall document all exposure incidents, including the name or other identifier of the employee exposed, the date and location of the incident, a detailed description of the incident, all follow-up evaluation and treatment, and steps taken for prevention of such exposures.

C. All employee tuberculin skin test conversions (*except pre-employment screening*) and diagnosed cases of TB shall be recorded on the log of occupational injuries and illness (*Cal/OSHA 300 Log*).

D. Providence shall document:

1. All training provided, including the employee's name or other identifier, training dates and training provider.
2. Training documentation shall be maintained for at least three (3) years.
3. All periodic testing of isolation rooms, enclosures and units.

E. All documentation required shall be made available upon request to the Division of Occupational Safety and Health, the California Department of Health Services and the National Institute for Occupational Safety and Health for examination and copying.

16. **TB Risk Assessment**

A. A risk assessment, following the CDC Guidelines, will be performed annually using PPD conversion rates for employees, including any clusters of conversions in a specific area.

B. Based on this assessment and following CDC Guidelines, a risk level will be assigned (e.*g., low, medium or high*). Within the limitations of each physical plant, the optimum TB control program will be formulated for this risk level.

17. **Evaluation**

A. This plan will be evaluated for its effectiveness at least annually by the Infection Prevention Committee, and any necessary changes made based on analysis of tuberculin skin test conversion data and exposures.

REFERENCE(S)/RELATED POLICIES

References:

- Guidelines for Preventing the Transmission of Mycobacterium Tuberculosis in Health-Care Settings, 2005
- NIOSH: TB Respiratory Protection Program in Health Care Facilities, 1999

- Cal/OSHA Aerosol Transmissible Disease Standards 8/5/2009
- Biosafety in Microbiological and Biomedical Laboratories, Fifth Edition, CDC and National Institutes for Health, 2007

Attachments

No Attachments

Approval Signatures

Approver	Date
Wen Yun Chang: Ni Progrm Coord And Analyst	07/2018
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Carol Miles: Manager Education [JK]	04/2018
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Applicability

PSJH LA Region