High Desert Health System
POLICY AND PROCEDURE

POLICY NUMBER: 621
VERSION: 1

SUBJECT: TB EXPOSURE CONTROL PLAN

I. INTRODUCTION:

This TB Exposure Control Plan has been developed by the High Desert Health System (HDHS) in response to a growing problem of TB throughout the US and the World. The assumptions underlying this plan are:

A. TB is a disease that is often diagnosed and treated in health care settings. Patients with active pulmonary TB may be diagnosed at the time of evaluation, treatment, or at a later time.

B. A high index of suspicion and continuous surveillance are crucial to the control of TB, to protect patients, staff and visitors.

II. ASSIGNMENT OF RESPONSIBILITY:

A. The HDHS Administrator, Medical Director, Nursing Director and the Infection Prevention & Control/Employee Health, Environment of Care Committees are responsible to direct and adhere to the TB Exposure Control Program. The Infection Prevention Nurse, Employee Health Service, and the Safety Officer are responsible for operating and complying with this plan. All Department Managers are responsible to adhere to and comply with this plan.

B. This plan will be reviewed annually by the Infection Prevention & Control/Employee Health Committee, revised as needed and forwarded to the PSA Committee for final approval.

C. It is the responsibility of the HDHS Administrator, Medical Director and Nursing Director to ensure the initial and periodic training of employees on this plan and maintenance of training records. It is the shared responsibility of the Infection Prevention Nurse, Employee Health Service (EHS), Safety Officer and the Office of Human Resources (OHR) to provide training on this plan to all employees at initial time of employment and periodically as needed. OHR is responsible to maintain training records of all employees who participate in New Employee Orientation and Annual Update Training.

D. It is the responsibility of the Department Managers to ensure that initial and update training is provided to all employees as outlined in the Education and Training section of this plan and that department specific

training is provided to employees within their department initially and as indicated periodically.

E. This plan is to be made accessible to all employees. All employees are to comply with this plan. Failure of employees to comply with this plan will result in disciplinary action per HDHS policies.

F. Each Department Manager is responsible to monitor the compliance of employees with this plan.

G. The Infection Prevention Nurse and the Employee Health Service are responsible for performing TB surveillance and follow up after an exposure incident.

H. Reports of exposure incidents are to be reviewed by the following committees: Infection Prevention & Control/Employee Health, Environment of Care (when indicated), and Clinical Executive. A periodic re-assessment of risk within the facility is to be performed at least annually.

I. The reporting of TB patient diagnosis and exposure occurrences to patients or employees are to be made to Public Health Agencies per HDHS policy and in accordance with Los Angeles County, State and Federal mandates an ongoing risk assessment of the TB exposure risk of the HDHS facility should consist of the following steps:

    1. Review the community profile of TB disease in collaboration with the state or local health department.
    2. Review the number of patients with suspected or confirmed TB disease who have been encountered in the facility during the previous 5 years.
    3. Determine if persons with unrecognized TB disease have been admitted to or were encountered in the facility during the previous 5 years
    4. Determine which HCWs need to be included in the respiratory-protection program.
    5. Determine facility risk classification (as low, medium or ongoing potential for transmission per the CDC risk assessment classification guideline.

J. Conduct periodic reassessments (annually) to ensure:

    1. Proper implementation of the TB infection-control plan
    2. Prompt detection and evaluation of suspected TB cases
    3. Prompt initiation of airborne precautions of suspected infectious TB cases

4. Recommended medical management of patients with suspected or confirmed TB disease
5. Functional environmental controls
6. Implementation of the respiratory-protection program
7. Ongoing HCW training and education regarding TB

K. Calculate conversion rates of employee TST per CDC guidelines

L. Recognize and correct lapses in infection control.

III. IDENTIFICATION, MANAGEMENT & ISOLATION OF TB PATIENTS

A. INITIAL PATIENT ASSESSMENT

An assessment occurs at the time of intake if TB symptoms are present in the patient. The intake staff will promptly assess patients for specific symptoms compatible with active TB illness:

Chronic cough (over 3 weeks)
Unexplained weight loss / loss of appetite
Hemoptysis
Fever/Chills
Night sweats
Recent TB exposure within past two years
History of TB diagnosis

Other risk factors include:

HIV risk
Homelessness
Prison stay in past three years
Contact or exposure to a TB suspect or confirmed individual

B. PATIENT TB PRECAUTIONS & ISOLATION

1. If a cough and/or other symptoms suggestive of pulmonary TB are present or patient has been diagnosed as a TB suspect or confirmed case, the patient is to be instructed in the Respiratory Hygiene precautions:
    a. Wear a surgical mask while he/she is inside a building and until he/she is evaluated by the health care provider (to determine continued need for precautions)
    b. Use tissues to cover nose and mouth when coughing or sneezing
    c. Perform hand hygiene

2. The patient is seen immediately and is placed in a designated exam room (negative air pressure, if available) with the door closed. If the exam room does not have negative air pressure and/or if the patient cannot be seen immediately, the patient may be asked to wait outside (weather permitting) or referred to a clinic site with a negative air pressure room.

3. An Airborne Isolation sign is placed on the door.

C. EMPLOYEE TB PRECAUTIONS

Employees are to wear a NIOSH approved N-95 (e.g., duckbill mask), or PAPR respirator if the patient is suspected or confirmed for TB. Refer to Respiratory Protection Section in this policy for further information.

D. PATIENT EVALUATION

1. The evaluation of TB suspects is initiated with utmost priority in order to decrease exposure to other patients and staff.

2. Orders for CXR, or lab testing are to be clearly designated as R/O TB. Departments are to be notified by phone when a TB patient (suspect or confirmed) is sent for evaluation or testing. If possible, the patient is to be escorted by a Health Care Worker (HCW) to the department. The patient is not to wait in waiting rooms for extended periods of time.

3. The patient is instructed to continue wearing a surgical mask when inside buildings.

4. Based on the radiologic and/or laboratory diagnostic test findings and clinical history, the clinic provider will inform the nursing staff and the patient of the need for further Airborne Isolation/TB Precaution measures and referral for continued TB treatment and/or hospital admission.

5. <u>Differential Diagnosis:</u>

    a. TB suspect or confirmed patients who may have other differential diagnostic considerations, which require further diagnostic work up such as radiology or laboratory testing, may have these tests done without waiting for the results of AFB smear and/or culture or completion of TB treatment.

    b. Airborne Isolation Precautions and respiratory hygiene protocols are to be adhered to by the patient and staff.

    c. Notify the departments where patients will be further evaluated of the need for Airborne Isolation Precautions prior to the patient's arrival for the tests.

E. TB TREATMENT, PUBLIC HEALTH REPORTING & REFERRAL

1. Reporting is to be made to the Los Angeles County Public Health Department within one working day of identification of any suspect or confirmed TB patients per the Confidential Morbidity Report form (CMR). See Reporting Protocol, Section VII below.

2. Treatment or therapy is ordered according to the current Centers for Disease Control and Prevention Guidelines and Los Angeles County Public Health Tuberculosis Control Unit recommendations.

3. A Los Angeles County (LAC) Department of Public Health (DPH) referral for treatment is made (note referral in Remarks section of the CMR form) after initial screening is completed which includes: TB Skin Test and CXR. DPH should also be notified of other applicable patient information and test results. A specimen for AFB Sputum, if indicated, should optimally be collected as an induced sputum, rather than a patient self-collected specimen. After TB suspect/confirmed patient is reported and referred to Public Health, Public Health staff will determine to order and then collect an induced sputum for AFB, if indicated. The health care provider is to notify the patient of the referral to Public Health and that Public Health will contact the patient.

F. DISCONTINUING ISOLATION

1. <u>TB Ruled Out</u>: Airborne Isolation/ TB Precautions may be discontinued if the provider has ruled out TB.

2. <u>Patients with Positive Smears</u>: Airborne Isolation/ TB Precautions may be discontinued when a patient has 3 consecutive negative AFB sputum smear results, collected at least 8 - 24 hours apart, with at least one result from an early morning specimen and/or the patient is culture negative.

3. <u>Patients with known Multiple Drug Resistant TB</u>: Patient is to be culture negative before discontinuing isolation. Consideration for isolation may be given at the physician's discretion when the patient is clinically improving and AFB sputum smears are negative consecutively x 3 at least 8 – 24 hours apart with at least one result from an early morning specimen.

G. COUGH INDUCING OR AEROSOLIZATION PROCEDURES:

Since a confirmed TB diagnosis may not be known for several weeks, all suspect TB cases are to be treated with the same degree of care as patients confirmed as positive TB. Special precautions are indicated for high-risk procedures.

1. Cough inducing or sputum producing procedures are not performed on TB patients unless absolutely necessary.

2. Cough inducing procedures such as bronchoscope, or aerosolization by manipulation or irrigation of abscesses on suspect or confirmed TB patients are not to be performed without use of the proper TB isolation precautions.

   Such procedures should be performed in a room meeting Airborne Isolation (AI) room criteria and/or designated for these procedures utilizing appropriate TB precautions, respiratory protection (with use of a PAPR by the attending healthcare worker when collecting this specimen, which is a for a high hazard procedure) , and work-practice and engineering controls. Patient may need to be referred to a setting that can provide this type of isolation and engineering controls for safe performance of such procedures.

3. Patients are to remain in the designated isolation room until coughing subsides.

4. Keep room door closed until room has been aerated (see Engineering Controls Section III below for guidelines regarding the aeration of negative air pressure rooms).

IV. RESPIRATORY PROTECTION

A. Respiratory protective devices used are to, at a minimum, meet the NIOSH approved standards for an N-95 (e.g., duckbill mask), HEPA, or PAPR respirator.

B. Disposable TB respirator masks (e.g., Duckbill mask) are to be readily accessible.

C. Respiratory protection is used by HCW:

   1. When in an isolation room and/or when providing care to a TB suspect or confirmed patient.

   2. When performing any high-risk (cough inducing) procedure or when in a room where a high-risk procedure is being performed of a patient suspected or confirmed to have TB. In this setting a PAPR

is required for each health care worker in the room at the time of the procedure.

3. When in the presence of an unmasked TB suspect or confirmed patient.

4. When changing filters in ventilation ducts exhausted to the outside or cleaning ventilation ducts.

5. When transporting suspect or confirmed TB patients in an enclosed vehicle.

6. TB respirator masks or PAPR, when indicated, are to be worn until leaving the room and are to be removed outside the isolation room (after gloves removed and hands are washed). Hands are to be washed again after touching masks or protective equipment soiled with body fluids.

D. Respirator Fit Testing

It is the responsibility of the Employee Health Service to provide training, and perform testing and correct fitting of respirators for employees required to wear a respirator at the time of initial employee assignment to job duties that may place them at risk of exposure to TB and annually thereafter. The Respiratory Protection Program Policies are to be followed.

1. Employees required to wear a NIOSH approved N-95 (e.g., duckbill mask), or PAPR respirator are to be instructed in the correct application of the mask and the appropriate indications for wearing the mask (See Employee Training Section).

2. Fit Check and Fit Testing protocols for employees required to wear the N-95, or PAPR respirator will be adhered to per protocols outlined in the Respiratory Protection Protocol (see Employee Health Protocols).

V. ENGINEERING CONTROLS

A. Ventilation System

1. The Facilities Department works closely with the Infection Control/ Employee Health and Environment of Care Committees to assist in the control of airborne infections.

2. The HDHS ventilation system is to meet the building codes in Title 24 and the Mechanical Codes for air exchanges in the patient care service and waiting areas.

3. Negative Pressure rooms designated as Isolation rooms, are monitored for air exchanges and air pressure per the Facilities Department Protocols and/or a continuous room pressure monitor and per regulatory requirements.

B. Aeration of Rooms used for TB Patients

1. After a TB suspect or confirmed patient is discharged from a room, the room is to be "aired out" for a period of time before the next patient is admitted or an employee may enter the room without the use of respiratory protection (e.g., N-95 mask). Room is to remain closed during this time and the Airborne Isolation sign (or notation) is to remain posted at the doorway until the time is completed.

2. Each designated room is evaluated by the Facilities Department to determine per calculations for Air Exchange Rates for the appropriate length of time to wait between patient uses, per CDC guidelines.

3. An air exchange rate reference chart (listing the amount of time a room must be left closed) is to be used as a guide. If the wait time is unknown, the room is to remain closed for one (1) hour.

VI. EMPLOYEE SCREENING

A. All HDHS employees are to be screened prior to initial employee placement or assignment and at least annually thereafter to identify TB infection and/or disease and to initiate appropriate control measures.

B. Department of Health Services (DHS) Policy 925.510, Tuberculosis Screening and Surveillance Program (See Attachment 1), is to be adhered to by the Employee Health Service for all employees, including county, contract, volunteers and students. All HDHS employees are also to adhere to this DHS Employee Health policy.

C. Screening may include TB Skin Test (TST) with PPD Solution or Interferon-Gamma Release Assays (IGRA) lab test and TB Symptom Questionnaire, as indicated, per DHS TB Screening policy.

VII. POST EXPOSURE MANAGEMENT

A. DEFINITION

1. A TB Exposure Incident is defined as an event in which a patient or employee sustains substantial exposure to a TB source case with suspected or confirmed infectious TB without having had the benefit of all applicable and required TB exposure control measures (i.e., respiratory protection, isolation, treatment with TB medication with evidence of 3 consecutive AFB sputum smears at least 8- 24

hours apart, with one sputum collected as an early morning specimen).

2. In determining whether the event involved substantial exposure, the following factors are to be taken into account: the infectiousness of the exposure source, the proximity of the exposed person to the exposure source, the extent to which the exposed person was protected from exposure, and the duration of the exposure event.

3. The Infection Prevention and Control Team (IP Nurse and/or the Infection Prevention & Control Committee Chairperson) are to be consulted for determination of an exposure incident. The patient's physician and/or the Public Health Department are to be consulted for determining the infectiousness of the index case.

B. PATIENT POST EXPOSURE MANAGEMENT:

Patients who have been determined to have sustained an exposure to a suspect or confirmed TB patient are to be reported to the Infection Prevention Nurse and are to be managed as follows:

1. The physician of record is to be notified. Patients are to be referred to their primary care provider for exposure follow up TB screening.

2. If patient cannot be contacted for referral to a primary care provider for follow up the patient case is to be reported by the physician or the Infection Prevention Nurse to the Public Health Department for follow up. LAC TB Contact Investigation Report Form (#289) is to include names, addresses, phone numbers, medical record number, and dates of exposure to the TB index case.

C. EMPLOYEE POST TB EXPOSURE MANAGEMENT

When a TB exposure occurs, suspected or confirmed, the following reporting mechanism should take place:

1. The exposed employee is to notify his/her supervisor as soon as possible (follow chain of command if supervisor is not on duty at that time) with 24 hours.

2. The supervisor who becomes aware of an exposure notifies the Infection Prevention (IP) Nurse. In absence of the IP Nurse the Employee Health Service is to be notified.

3. When the Infection Prevention Nurse or Employee Health Service become aware of an exposure they are to notify each other and the Infection Prevention Nurse in collaboration with the Infection Prevention & Control Committee Chairperson and Employee Health Service will:

    a. make a determination of the exposure

    b. notify the supervisors of the involved departments (if they are not yet aware)

    c. assist the EHS in planning for the follow up management of the incident.

    d. request the supervisor to provide a list of the following information to the Employee Health Service:

        i. Patient name, chart number and all locations in which the patient has been prior to discovery of TB.

        ii. Date of visits to the facility

        iii. List of employees suspected of having had an exposure and length of time exposure occurred.

    e. The Infection Prevention Nurse will submit to the Employee Health Service an exposure report outlining pertinent patient data of the exposure.

D. EMPLOYEE SCREENING FOR POST TB EXPOSURE MANAGEMENT

1. Employees with History of Negative TST:

    The Employee Health Service (EHS) will send notices to those employees who have a history of a negative TST to report to the EHS:

    a. Within two weeks of exposure for a baseline TST to determine status at the time of exposure.

    b. Report to the EHS at 8-10 weeks (per directives of the EHS) from the date of exposure for a follow up TST to determine if employee has converted to a positive TST.

    c. Failure of employee to report for skin testing as scheduled will result in a second notice being sent to the Supervisor or Department Head, Administration and the Infection Prevention Nurse.

2. Employees with History of Positive TST/IGRA:

   Employees with a history of a positive TST/IGRA will be instructed to report to the Employee Health Service for a follow up symptoms assessment and or IGRA test in lieu of a TST.

3. TST Conversion:
   If an employee converts from a negative to a positive TB skin test the Employee Health Service will follow the protocols outlined in DHS EHS policy 925.510 (Attachment 1) for convertors.

E. INVESTIGTION OF EXPOSURE

If a test conversion in an HCW is detected and the HCW's history does not document exposure outside the health-care setting and does not identify a probable source of exposure in the setting, additional investigation to identify a probable source in the health-care setting is warranted, per CDC guidelines and DPH consultation, as indicated.

VIII. EDUCATION AND TRAINING OF EMPLOYEES

TB prevention training is provided to all employees reasonably expected to be exposed to a suspect or confirmed infectious TB patient (See Assignment of Responsibility.)

A. The Supervisor/Department Head is responsible for overseeing that:

1. Employees attend training provided by HDHS

2. Department specific training on TB exposure protocols is provided.

B. Information included in the HDHS training is as follows:

1. An explanation of individuals at increased risk.

2. The modes of TB transmission, including the difference between infection and disease.

3. The symptoms and consequences of TB illness.

4. Employee and employer responsibilities per TB Exposure Plan.

5. Measures provided by employer to prevent TB exposures (e.g., engineering control, work practice controls, respiratory protection.

6. Employee TB screening and criteria for positive test results; the effect of HIV and other medical conditions on screening results.

7. Preventive therapy and treatment.

C. Education is provided for new employees at the time of initial assignment and update information is provided periodically as indicated.

D. Education sessions are documented and an evaluation is made.

IX. REPORTING PROTOCOLS

A. PUBLIC HEALTH REPORTING:
The State of California Department of Health Services and the Los Angeles County TB Control Office mandate the reporting of all suspect or confirmed TB patients within one working day (see Communicable Disease Reporting to Public Health Policy). The following cases are to be reported to the TB Control Public Health Department:

1. All patients suspected or confirmed to have TB:
    a. When the following conditions are present:
        i. Signs and symptoms of tuberculosis are present and/or
        ii. The patient has an abnormal CXR consistent with TB
        iii. The patient is placed on two or more anti-TB drugs
    b. When the bacteriology smears or cultures are positive for AFB.
    c. When the patient has a positive culture for M.TB or M. Bovis.
    d. When a pathology report is consistent with TB.
    e. When the patient age 3 years or younger has a positive TB skin test or abnormal CXR.

2. All patients suspected of being exposed to an active TB case are to be reported on the LAC TB Contact Investigation Report Form (#289) and is to include names, addresses, phone numbers, medical record number, and dates of exposure to the TB index case.

3. All employees identified as suspect or confirmed for active TB.

4. The Lab will notify the physician of record of patient per established Lab protocols.

B. The Physician is responsible to ensure a Confidential Morbidity Report (CMR) of Tuberculosis Suspects and Cases form is completed and forwarded to the LAC Tuberculosis Control DPH within **one** working day (24 hours) when a TB suspect or confirmed patient is diagnosed. The physician is also responsible to notify the patient of the diagnosis (See Communicable Disease Reporting to Public Health Policy).

C. All suspect or confirmed cases of TB, whether they have been referred to another primary care provider or admitted to a hospital, are to be promptly reported to the LAC TB Control DPH.

D. The TB Control Office or the DPH may make requests or recommendations for treatment, referral or additional tests, or, request information from the patient medical records.

E. All TB exposure incident occurrences are to be reported to the Infection Prevention Nurse and, when determined to be exposures, to the Employee Health Service.

F. The following occurrences are reported by the Employee Health Service to OHR and are to be included in the OSHA 300 Logs (and for Workman's Compensation as indicated):

1. Employees who convert to a positive TB skin test

2. Employees identified with active TB.

X. RECORD KEEPING:

Records of patients and employees regarding TB are maintained per confidentiality standards of HDHS and legal requirements of the Health Information Management Department, the Office of Human Resources and the Employee Health Service.

REFERENCES:

Centers for Disease Control and Prevention Guidelines for Preventing the Transmission of Mycobacterium tuberculosis in Health-Care Settings, MMWR, Vol. 54, No. RR-17, December 31, 2005.

Cal-OSHA CCR ATD Standard, Section 5199

Cal-OSHA CCR Title 8, Respiratory Protection Program, Section 5144

CCR Title 22, Section(s) Infection Control & Employee Health

Los Angeles County, Department of Public Health, TB Control Program Manual, 2003

ATTACHMENT:

County of Los Angeles Department of Health Services (DHS) Policy 925.510, Tuberculosis Screening Surveillance Program, April 22, 2016.

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