

INFECTION CONTROL PLAN

FOR PREVENTING THE TRANSMISSION
OF *M. tuberculosis*

UMDNJ-SOM

Department: _____

Clinical Administrator: _____

Phone: _____

DRAFT June 2005

June 2005
INFECTION CONTROL PLAN

**FOR PREVENTING THE TRANSMISSION OF *M. tuberculosis* (TB)
IN ALL UMDNJ-SOM OUTPATIENT CLINICS**

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INFECTION CONTROL PLAN FOR PREVENTING THE TRANSMISSION OF *m.* TUBERCULOSIS IN SOM OUTPATIENT CLINICS

PURPOSE:

To establish a procedure for identifying and reducing the risk for transmission of tuberculosis to Healthcare Workers (HCWs) who work in patient care areas and to establish a TB screening and training program. The procedure will be consistent with Centers for Disease Control and Prevention, "Guidelines for Preventing the Transmission of Mycobacterium Tuberculosis in Health Care Facilities, 1994."

RESPONSIBILITY:

The Dean of the School of Osteopathic Medicine has ultimate authority and responsibility to ensure compliance with this Infection Control Plan.

The Department Chairperson shall ensure compliance with this Plan for all their clinical sites.

SOM Division of Pulmonary Medicine, Department of Internal Medicine:

The SOM Division of Pulmonary Medicine, Department of Internal Medicine is responsible for:

1. Conducting an infection control investigation in the event that any nosocomial transmission of Tuberculosis is suspected or when a person with active TB has spent time in an SOM facility.
2. Conducting post-exposure counseling, PPD screening and any subsequent medical management for employees who are exposed to active infectious tuberculosis.
3. Evaluating employee PPD screening results and conversion rates for evidence of nosocomial transmission of TB.
4. Establish collaborative agreement with the County TB Clinics, or other appropriate facilities, for referral of patients with suspected or confirmed TB.

Clinical Administrators:

The Clinical Administrators are responsible for:

1. Ensuring that annual PPD screenings are conducted for all employees with patient contact and notifying the SOM Division of Pulmonary Medicine of all

positive PPD test results.

2. Notifying the SOM Division of Pulmonary Medicine when a patient presents at a SOM facility with symptoms or findings suggestive of active TB.
3. Submitting all PPD screening results (if conducted by the department), with the following specific information to the Department of Family Practice, Division of Family Medicine for inclusion in the facility PPD screening database:
 - a. Employee Name
 - b. Job Title
 - c. Work Location(s)
 - d. PPD Result (if positive result, is it a newly positive result?)
4. Maintaining confidential records for all employee PPD screenings they conduct.
5. Implementing protocols to ensure early identification and referral of patients who may have infectious TB as specified in this policy.
6. Ensuring that employees within their unit attend TB training sessions and can demonstrate that they are familiar with the symptoms of infectious TB.
7. Working with the SOM Division of Pulmonary Medicine to investigate possible episodes of TB transmission in HCWs, including PPD skin-test conversions, epidemiologically associated cases, or patients, and contacts of patients or HCWs who have TB.

Department of Family Practice, Division of Family Medicine:

The Department of Family Practice, Division of Family Medicine is responsible for:

1. Maintaining confidential records for all employee PPD screenings they conduct.
2. Promptly notifying the SOM Division of Pulmonary Medicine of all employee PPD conversions.
3. Maintaining the facility-wide PPD screening database.
4. Submit employee PPD conversion and TB disease information to Risk and Claims for recording on the OSHA 300 log.

Environmental and Occupational Health and Safety Services (EOHSS):

EOHSS is responsible for:

1. Providing TB training and education to health care workers.

2. Coordinating with the Division of Pulmonary Medicine to recommend additional TB control measures, if necessary.
3. Obtaining information regarding the incidence and prevalence of TB in the community from the NJDHSS, TB Control Program.

INFECTION CONTROL MEASURES

The SOM TB Infection Control Program is based on Administrative Controls for prompt identification of patients who may have infectious TB. SOM does not have appropriate facilities for diagnosis and treatment of patients who may have active TB. It is SOM policy that patients with potential active TB are referred to an appropriate facility for diagnosis and treatment. Information on procedures for referral of patients who may have active TB is found in the section of this policy titled: 'Identifying, Evaluating, and Initiating Treatment for patients who may have active TB.

Administrative control measures include:

- a) Implementing procedures to ensure the rapid identification and isolation of persons likely to have TB;
- b) educating, training and counseling HCW's about TB and screening HCW's for TB infection and disease;
- c) assessment of the risk for transmission of tuberculosis to HCW'S, patients, volunteers, visitors and other persons in the SOM ambulatory care sites
- d) ensuring that control measures are implemented for HCWs who may be exposed to patients with infectious TB in associated medical facilities as required by this Plan.

Some SOM employees who work in associated medical facilities may have contact with patients who have suspected or confirmed infectious TB. These facilities are required to institute programs which utilize appropriate control measures to reduce the risk of exposure. These control measures include administrative controls, engineering controls in treatment areas (i.e. isolation rooms), and a Respiratory Protection Program. Employees who have contact with patients who may have infectious TB shall be enrolled in the institution's Respiratory Protection Program. These programs should include medical evaluation and fit-testing of respirator-wearers as well as provision of appropriate respirators for employee use.

Potentially exposed SOM employees, residents or interns at an associated facility who have not received a medical evaluation and respirator fit test shall contact EOHSS at 856-566-6189 to help ensure that the issue is resolved.

IDENTIFYING, EVALUATING, AND INITIATING TREATMENT FOR PATIENTS WHO MAY HAVE ACTIVE TB

1. Employees, who are the first point of contact, shall be trained to ask questions that will facilitate identification of individuals with suspected or confirmed infectious TB disease. (See Appendix B). This issue will be included during EOHSS training sessions and shall be reinforced by supervisory personnel.
2. Potentially exposed employees shall be trained to recognize the signs and symptoms of TB disease noted by CDC. These signs and symptoms include persistent cough (lasting > 3 weeks), bloody sputum, night sweats, weight loss, anorexia, fever, and other risk factors.
3. If an individual has been identified with suspected or confirmed infectious TB, they will immediately be placed in an exam room which is separate from other individuals and is not an open waiting area.
4. A surgical mask, a box of tissues, and instructions in the use of both will be provided to the identified individual until prompt referral to a collaborating facility occurs.
5. Patients shall be referred to the County TB Clinic in which they reside. Additional contact information on county TB clinics can be found in Appendix C. The Clinical Administrator shall notify the County TB Clinic that a suspect TB patient is being referred.
6. If emergency transport is necessary, the Clinical Administrator will notify the ambulance dispatchers that transport is being requested for a suspect TB patient.

TB EDUCATION AND TRAINING FOR HEALTH CARE WORKERS

All employees who work in patient care areas shall receive education and training regarding occupational transmission of TB that is relevant to their occupational group and assigned setting. This training shall be conducted as part of the initial employment orientation and bi-annually thereafter.

HCW SCREENING AND EVALUATION

PPD screening of HCWs shall be conducted annually either by contract arrangement with the SOM Department of Family Practice or by the Clinical Department. More frequent PPD testing shall be conducted if indicated by the risk assessment.

HCWs that have a documented history of a positive PPD test, adequate treatment for disease, or adequate preventive therapy for infection, should complete the questionnaire in Appendix B in place of the annual PPD screening. If symptoms are present, the pulmonary physician should be contacted.

Pre-employment TB screening shall be conducted by the by the Department of Family Practice in coordination with the Department of Human Resources. Potential employees who have **no** documentation of a prior tuberculin skin test will be given the two-step tuberculin skin test (Mantoux Test) as part of the preemployment evaluation. Potential employees who have documentation of a prior negative tuberculin skin test within the past six months will not be given a PPD.

All PPD tests should be administered, read, and interpreted in accordance with current guidelines by designated, trained personnel. PPD test results should be read between 48 and 72 hours after injection.

PPD test results should be recorded confidentially in the individual's employee health record and in an aggregate database of all employee PPD test results.

Employees with positive PPD test results should have a chest radiograph as part of the initial evaluation of their PPD test. Repeat chest radiographs are not needed unless symptoms develop that could be attributed to TB.

Information regarding employee PPD conversions and TB disease shall be forwarded to Risk and Claims, for recording on the NJOSH 300 log.

MEDICAL MANAGEMENT OF INFECTED HEALTH CARE WORKERS

HCWs with newly recognized positive PPD test results will be referred for a clinical examination by the SOM Division of Pulmonary Medicine. Workers with active TB will not be allowed to return to work until the SOM Division of Pulmonary Medicine provides written permission to their supervisors allowing them to return. The following criteria must be met for personnel to be cleared to return to work:

1. adequate therapy has been given
2. cough is resolved
3. three consecutive negative sputum smears were collected on different days.

After returning to work, the SOM Division of Pulmonary Medicine will ensure that the employee remains on anti-TB therapy for the appropriate time and remains AFB sputum smear negative. If a Health Care Worker is treated for TB by a private physician, that physician must notify the SOM Division of Pulmonary Medicine, so that they may monitor the treatment.

Health Care Workers with latent TB will be evaluated by the SOM Division of Pulmonary Medicine for preventive therapy, which is usually 6 to 12 months of isoniazid. Health

Care Workers with latent TB or nonlaryngeal and nonpulmonary TB infection will be allowed to continue their usual work activities.

The SOM Division of Pulmonary Medicine will report employees with physician-diagnosed active or clinically-suspected active TB disease **by phone within 24 hours** and **in writing within 72 hours** to the following address and phone number:

NJDHSS Tuberculosis Program
P.O. Box 369
3635 Quakerbridge Road
Trenton, New Jersey 08625-0369
PH: (609) 588-7522
FAX:(609) 588-7562

RISK ASSESSMENT

TB Risk Categories

- A **minimal risk** category refers to an entire facility which has not treated, admitted or transported an individual with suspected or confirmed infectious TB disease and is located in a community in which **no** TB cases have been reported in the previous year.
- A **low risk** category refers to areas or occupational groups within a workplace that treat, transport, and/or admit **five (5) or less** individuals with suspected or confirmed infectious TB disease.
- An **intermediate risk** category refers to areas or occupational groups within a workplace that treat, transport, and/or admit **six (6) or more** individuals with suspected or confirmed infectious TB disease.
- A **high risk** category refers to areas or occupational groups in which a) employee purified-protein derivative (PPD) conversion rates were significantly greater than for areas or groups in which occupational exposure to *M. tuberculosis* was unlikely or greater than previous rates for the same area or occupational group, and epidemiologic evaluation suggests nosocomial transmission; **or** b) a cluster of PPD test conversions occurred, and epidemiologic evaluation suggests nosocomial transmission of *M. tuberculosis*; **or** c) possible person-to-person transmission has been detected.

Baseline Risk Assessment

Separate risk assessments shall be conducted for the entire facility, each SOM clinical location, and relevant occupational groups with patient exposure (i.e. Physical Plant). Risk assessments shall also be conducted for SOM employees, residents, interns and

fellows who spend some or all of their time at associated medical facilities other than SOM. Risk assessments shall be conducted at least annually and shall be based on the following factors:

- a) Incidence of TB in the community in the past year
- b) Number of infectious TB patients who presented at the clinic, or the number of patients with symptoms of infectious TB who were identified
- c) Results of analysis of HCWs PPD test conversions (where applicable) and possible person-to-person transmission of TB.

Based on the above criteria, the risk for transmission of *M. tuberculosis* in the facility, area, or occupational group will be defined as high, intermediate, low, or minimal. Based on previous data, SOM facilities fall in the "low risk" category which refers to areas or occupational groups within a workplace that treat, transport and/or admit five or less individuals with suspected or confirmed infectious TB disease.

If it has been determined that any of the following conditions has occurred:

- employee TB skin test conversion rates are significantly greater than for areas or groups in which occupational exposure to *M. tuberculosis* was unlikely or greater than previous rates for the same area or occupational group, and epidemiologic evaluation suggests nosocomial transmission; **or**
- a cluster of TB skin test conversions occurred, and epidemiologic evaluation suggests nosocomial transmission of *M. tuberculosis*; **or**
- possible person-to-person transmission has been detected;

then this facility, or area within this facility, or occupational group within this facility will be temporarily be assigned a **high risk** category.

The Form to be completed for the Risk Assessment is contained in Appendix A.

Analysis of HCW PPD Test Screening Data

Results of HCW PPD testing should be recorded in the individual HCW's employee health record and in a retrievable aggregate database of all employee PPD test results. Personal identifying information should be handled confidentially. PPD test conversion rates should be calculated at annual intervals to estimate the risk for PPD test conversions for each area of the facility and for each specific occupational group not assigned to a specific area.

PPD test conversion rates for each area or occupational group should be compared with rates for areas or groups in which occupational exposure to *M. tuberculosis* is

unlikely and with previous conversion rates in the same area or group. Results of the Risk Assessment should be sent by the SOM Pulmonary Division. An epidemiologic investigation should be conducted to evaluate the likelihood of nosocomial transmission if PPD test conversions are noted.

APPENDIX A

TB Risk Assessment Form

TB RISK ASSESSMENT FORM

This Risk Assessment Form must be completed for each clinical location.

Department: _____ **Division:** _____ **Location:** _____

The risk assessment was conducted by _____ on _____
(Name(s) of qualified person) (Date)

The time frame covered by this assessment was from _____ to _____
(Month/Year) (Month/Year)

1. The number of individuals with suspected or confirmed infectious TB identified at this facility and then referred to a collaborating facility for diagnostic evaluation and treatment, or TB rule-out was:

_____ and _____
(# of suspected infectious TB cases) (# of confirmed infectious TB cases)

2. Number of employees with patient contact? _____

3. Number of employees who received the PPD skin test? _____

4. The number of PPD conversions at this facility was _____

5. PPD conversion rate = $\frac{\text{\# of PPD test conversions among HCWs}}{\text{total \# of previously PPD negative HCWs tested}}$ = _____
(current year)

6. PPD conversion rate for previous year was _____

7. Was the PPD conversion rate was significantly greater than the previous rate for the same location? _____

8. Was there a cluster (two or more) of PPD conversions in one area or occupational group within a three month period? _____

IF THE ANSWER WAS “NO” TO THE ABOVE, THE FACILITY IS LOW OR INTERMEDIATE RISK. IF THE ANSWER TO ANY OF THE ABOVE WAS “YES”, THE FACILITY IS HIGH RISK.

TB cases in the community* served by this facility was _____.
(# of individuals confirmed to have infectious TB)

The RISK LEVEL for _____
(Designate if risk level is for the facility, area(s) within the facility, or occupational group)

was determined to be _____ **on** _____.
(Specify if the risk level is minimal, low, intermediate or high) (Specify date)

* Information to be provided by EOHSS

APPENDIX B

Recognition of patients with symptoms of *m. tuberculosis* (TB)

SOM Outpatient Clinics

Recognition of patients with symptoms of Tuberculosis (TB)

The earlier an active infectious TB carrier can be identified, the better. Health Care Workers with patient contact, especially those at the first point of contact such as receptionists, should know which persons are at higher risk of TB and should ask a standard set of questions for persons who appear to have signs or symptoms suggestive of TB. If the patient appears to have the symptoms of TB, the county TB clinic for the county in which the patient resides should be contacted, and the patient should be directed to that clinic. Appendix A contains information for the Camden and Gloucester County TB Clinics. For patients who reside in other New Jersey counties, the county TB clinic can be found at: <http://www.state.nj.us/health/cd/tbmanual.htm>.

Persons at Higher Risk for TB

- * Persons with HIV infection
- * Close contacts of persons with infectious TB cases
- * Persons with medical conditions that increase the risk of TB
- * Foreign born persons from areas with a high prevalence of TB (e.g., Asia, Africa, the Caribbean, Latin America)
- * Medically under served, low-income populations (e.g. some African-Americans, Asians, Hispanics, Native Americans including native Alaskans, Pacific Islanders)
- * Alcoholics and intravenous drug users
- * Residents of long-term care facilities, correctional institutions, nursing homes, homeless shelters, or other long-term residential facilities
- * Persons 65 years or older

Has the patient had the following:

1. Productive, prolonged cough for more than three weeks
2. Night sweats
3. Fever, chills, fatigue
4. Weight Loss
5. Loss of appetite
6. A known case of TB in the past
7. Coughing up Blood
8. In an AIDs unit, any respiratory problems, even if the x-ray showed *Pneumocystis carinii* pneumonia

Use the attached form to request information from patients who appear to have symptoms suggestive of TB. The patient can write the information or the information can be requested verbally.

Questionnaire for Patients with Respiratory Symptoms

Name: _____ Date: _____
(Please print)

Check the symptoms that you have:

- Productive, prolonged cough for more than three weeks
- Night sweats
- Fever, chills, fatigue
- Weight Loss
- Loss of appetite
- A known case of TB in the past
- Coughing up Blood
- HIV

APPENDIX C

County TB Clinic Information for Camden and Gloucester Counties

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County TB Clinic Information for Camden and Gloucester Counties

CAMDEN East Camden Chest Clinic Camden City Health Center 2631 Federal Street Camden, NJ 08105			
Clinic Schedule:	Every Wednesday 1:00 p.m.	To arrange for an appointment, contact:	Terri Gillan Kathy Mober, R.N. East Camden Chest Clinic Camden City Health Center 2631 Federal Street Camden, NJ 08105 (856) 756-2265 FAX# (856) 756-2268
Physician-in-charge:	Doctor on Call	Nurse-in-charge:	Kathy Mober, R.N. (856) 757- 0426
Field Worker:	Rose Patterson	CLINIC CODE:	C00430

Information on TB clinics for patients residing in other counties of New Jersey is available from the New Jersey Department of Health and Senior Services, and is posted on the following website:

<http://www.state.nj.us/health/cd/tbmanual.htm>

Appendix C
County TB Clinic Information for Camden and Gloucester Counties

GLOUCESTER COUNTY			
WOODBURY			
Gloucester County Health Department 160 Fries Mill Road Turnersville NJ 08012			
Clinic Schedule:	2nd & 4th Wednesday 1:00 p.m. - 3:00 p.m.	Physician's Schedule:	2nd & 4th Wednesday 1:00 p.m. - 3:00 p.m.
To arrange for an appointment, contact:	Mrs. Rose Fitzpatrick R.N. Gloucester County Health Department 160 Fries Mill Road Turnersville NJ 08012 (856) 262-4100 (856) 262-4144 (nurse in charge) FAX# (856) 629-0469	Physician-in-charge:	Judith Lightfoot, D.O.
Nurse-in-charge:	Mrs. Rose Fitzpatrick, R.N.	CLINIC CODE:	C01285

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