

**CITY OF NEW LONDON
TUBERCULOSIS INFECTION CONTROL PROGRAM**

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Policy Source: Cities and Villages Mutual Insurance Company WI Department of Health and Family Services WI Chapter HFS 145: Control of Communicable Diseases WI Statute 252: Communicable Diseases		
Special Instructions: The purpose of this policy is to mandate tuberculosis awareness in the City and for city employees.		

I. ASSIGNMENT OF RESPONSIBILITY

The City Administrator has overall responsibility for tuberculosis (TB) infection control in and for the City of New London.

II. RISK ASSESSMENT, TB INFECTION CONTROL PLAN AND PERIODIC REASSESSMENT

A. Initial Risk Assessment.

The City is not defined as a health care facility by OSHA/WI Dept. of Commerce and therefore does not have to perform a risk assessment. However, to adequately protect the employees of the City of New London, a risk assessment should be conducted periodically to evaluate the risk for transmission of TB in each department. Appropriate infection-control interventions can then be developed on the basis of actual risk. Appendix A is included to assist in tracking the drug susceptibility patterns of TB cases in our jurisdiction. Appendix A is non-mandatory.

Classification of risk should be based on the profile of TB in the community and the risk of exposure by occupational group.

The risk level for City employees is defined as low risk for the purpose of surveillance of affected staff and other applicable measures for the detection and control and treatment of TB.

Community TB profile and drug susceptibility data will be updated annually in cooperation with the Waupaca and Outagamie County Health Departments.

III. IDENTIFICATION, EVALUATION, AND TREATMENT OF EMPLOYEES/PATIENTS WHO HAVE TB

A. This section does not currently apply to the City, as it does not have a health care inpatient facility engaged in the identification, evaluation and treatment of patients with TB. Yet having some public health responsibilities to prevent the transmission of TB, we have an

obligation to identify clients with possible TB and move them toward evaluation and effective treatment. A protocol for this program is included in Appendix B.

IV. ENGINEERING RECOMMENDATIONS

We are not a facility that is required to have negative pressure isolation rooms. This section is not applicable to our agency.

V. RESPIRATORY PROTECTION

- A. When respirators must be used they will be chosen from NIOSH approved respirators for tuberculosis, at a minimum N-95 disposable respirators should be used.
- B. NIOSH approved respirators for TB must be worn by staff that is treating known or suspect TB patients (i.e. directly observed therapy). Respirators shall be worn when treating the patient until they are no longer infectious.
- C. The City does not perform high hazard procedures on known or suspect TB patients. The use of respiratory protection for high hazard procedures is not applicable.¹
- D. All persons that must enter a room (i.e., home, jail) of a known or suspect TB patient must be fitted for a respirator. The written respiratory protection program for disposable respirators is included in the city respiratory protection policy.

VI. COUGH INDUCING PROCEDURE

We do not perform cough-inducing procedures on known or suspect TB patients. This section is not applicable to our agency.

VII. TB TRAINING AND EDUCATION

- A. All firefighters and police officers will receive initial training when hired and refresher training on an annual basis.
- B. The training will include the following elements:
 - 1. Mode of TB transmission
 - 2. TB signs and symptoms
 - 3. Medical surveillance and therapy
 - 4. Site specific procedures including the purpose and proper use of controls
- B. Employees should be trained to recognize, and report to a designated person, any patients or clients with symptoms suggestive of infectious TB and instructed on the post exposure protocols to be followed in the event of an exposure incident.
- C. The person in charge of TB training is the City Risk manager.
- D. Additional TB information is included in Appendix D.

¹ If your agency is performing high hazard procedures on known or suspect TB patients (sputum induction) you must wear a respirator. Also see Appendix D on cough inducing procedures.

VIII. SCREENING

- A. Two-step PPD skin testing will be performed at the time of employment for new employees and at the initiation of this program for existing employees.²
- B. Annual PPD skin testing surveillance of employees with a likelihood of TB exposure will be performed.
- C. Those employees unable or unwilling to be evaluated by PPD skin testing will be medically evaluated by signs and symptoms. (Non-mandatory Appendix E is included to assist in this evaluation).
- D. All PPD skin tests will be read by a qualified individual (not the person to whom the test was applied) consistent with the interpretative guidelines set by CDC.
- E. All employees will receive information on TB infection and TB disease. Our Employee Assistance Program (EAP) provider will handle counseling in the event of exposure. Initial training will be done by CVMIC.
- F. All employees will be given information on the risk to immuno-compromised persons for developing active TB. This information will be consistent with current CDC recommendations. This counseling is provided by CVMIC or our EAP.
- G. All PPD skin testing surveillance documents shall be maintained in the employees medical records file. These documents must be maintained over the course of employment plus thirty years.

IX. EXPOSURE FOLLOW-UP

- A. Report all potential exposures to your Supervisor immediately.
- B. Obtain the name of the source individual and other individual-specific demographic information.
- C. Have the source individual tested to see if the source individual is infectious.
- D. All potentially exposed employees will receive counseling on TB infection and TB disease from our EAP.
- E. All potentially exposed employees will be counseled on the risk to immuno-compromised persons for developing active TB.
- F. The Risk Manager in consultation with licensed professionals will determine if employees have been exposed to infectious tuberculosis after having significant contact, without the benefit of all appropriate exposure control measures, with a patient whose sputum culture or nucleic acid amplification test (NAAT) is positive for M. TB, and who has not met all four criteria below to indicate that the patient is non-infectious:
 - Has 3 consecutive negative AFB sputum smears obtained on 3 different days; **and**

² If a PPD skin test has been performed on the individual in the past 12 months, then only a one PPD skin test step is needed.

- Has completed at least 2 weeks of multi-drug anti-tuberculosis therapy if ever AFB sputum smear positive, or at least 4 days of multi-drug anti-tuberculosis therapy if always AFB sputum smear negative; **and**
- Exhibits clinical improvement; **and**
- Has continued close medical supervision

G. PPD skin testing of employees exposed to infectious tuberculosis will be performed at baseline and again 90 days after the exposure occurred.

H. Those employees unable or unwilling to be evaluated by PPD skin testing will be medically evaluated by signs and symptoms. (Non-mandatory Appendix E is included to assist in this evaluation.)

I. All PPD skin tests will be read by a qualified individual (not the person to whom the test was applied) consistent with the interpretative guidelines set by CDC.

X. EVALUATE PPD TEST CONVERSIONS AND POSSIBLE NOSOCOMIAL OF M. TUBERCULOSIS

The City will evaluate TB test conversions of employees and initiate appropriate epidemiologic investigations. Appendix E is the CDC flow chart for investigating conversions. Appendix F details the protocol for such an investigation.

This agency does not have the lead responsibility for tracking nosocomial transmission of TB.

APPENDIX B

PROTOCOL FOR EARLY IDENTIFICATION, EVALUATION, TREATMENT, AND MANAGEMENT OF CLIENT'S WITH POSSIBLE ACTIVE TB

The criteria used in these protocols will be based on the prevalence and characteristics of TB in the population served by the local health department. Regardless of the prevalence, protocols must be in place. These protocols should be evaluated periodically and revised according to the results of the evaluation. Review of medical records of health department clients diagnosed as having TB may serve as a guide for developing or revising these protocols.

A diagnosis of TB may be considered for any client who has a persistent cough (i.e., a cough lasting for ≥ 3 weeks) or other signs or symptoms compatible with active TB (e.g., bloody sputum, night sweats, weight loss, anorexia, or fever). However, the index of suspicion for TB will vary in different geographic areas and will depend on the prevalence of TB and other characteristics of the population served by the health department. The index of suspicion for TB should be very high in geographic areas or among groups of clients in which the prevalence of TB is high. Appropriate diagnostic measures should be conducted and TB precautions implemented for clients in whom active TB is suspected.

1. Triage of clients shall include vigorous efforts to promptly identify patients who have active TB. HCWs who are the first points of contact in facilities that serve populations at risk for TB shall be trained to ask questions that will facilitate identification of clients with signs and symptoms suggestive of TB.
2. Clients with signs or symptoms suggestive of TB shall be evaluated promptly using TB precautions.
3. TB precautions will include a) placing these clients in a separate area apart from other clients, and not in open waiting areas; b) giving these clients surgical masks to wear and instructing them to keep their masks on; and c) giving these clients tissues and instructing them to cover their mouths and noses with the tissues when coughing or sneezing.
4. TB precautions will be followed for clients who are known to have active TB and who have not completed therapy until a determination has been made that they are noninfectious. All TB clients will be considered infectious until they a) have received adequate therapy for 2 to 3 weeks; b) demonstrate clinical improvement; and c) have three consecutive negative sputum smears collected on different days.
5. This facility will use written protocol for early identification of clients with TB symptoms, implementation of TB precautions, and appropriate referral to a collaborating facility where the client can be evaluated, treated, and managed.
6. HCWs will be informed during training who to report identified clients to and who is designated as the contact person.

Managing inpatients that have possible infectious TB.

Before a TB patient is discharged from the health-care facility, the facility staff and public health authorities should collaborate to ensure continuation of therapy. Discharge planning in the health-care facility should include, at a minimum, a) a confirmed outpatient is cured, b) sufficient management (e.g., DOT) or outreach programs of the public health department. These plans should be initiated and in place before the patient's discharge.

Patients who may be infectious at the time of discharge should only be discharged to facilities that have isolation capability or to their homes. Plans for discharging a patient who will return home must consider whether all the household members were infected previously and whether any uninfected household members are at very high risk for active TB if infected (e.g., children <4 years of age, persons infected with HIV, or otherwise severely immuno-compromised). If the household does include such persons, arrangements should be made to prevent them from being exposed to the TB patient until a determination has been made that the patient is noninfectious.

Tuberculosis Information

What is Tuberculosis?

Tuberculosis is a bacterial disease usually affecting the lungs (pulmonary TB) caused by *Mycobacterium Tuberculosis*. Other parts of the body (extra pulmonary TB) can also be affected; for example brain, lymph nodes, kidneys, bones, joints, larynx, intestines or eyes.

Who gets Tuberculosis?

Tuberculosis can affect people of any age. Most often, it is associated with older people who have had previous tuberculosis exposure. Individuals with weakened immune systems including those with AIDS or those infected with the human immunodeficiency virus (HIV) are at increased risk.

How is Tuberculosis Spread?

The bacteria causing tuberculosis is spread through the air. When a person with tuberculosis, who is not taking tuberculosis medication, coughs or sneezes, the germs get into the air. Prolonged exposure to the tuberculosis bacteria is normally necessary for infection to occur.

What is the difference between Tuberculosis Infection and Tuberculosis Disease?

Tuberculosis infection may result after close contact with a person who has tuberculosis disease. Tuberculosis infection is determined by a significant reaction to the Mantoux skin test with no symptoms of tuberculosis, and no TB bacteria found in the sputum. Tuberculosis disease is characterized by the appearance of symptoms, a significant reaction to a Mantoux skin test and TB bacteria found in the sputum.

To spread the TB bacteria, a person must have TB disease. Having TB infection is not enough to spread the bacteria. Tuberculosis may last for a lifetime as an infection, never developing into disease. However, individuals with TB infection are at considerable risk of developing TB disease, particularly during the first year after acquiring the infection. Additionally, individuals with weakened immune systems, such as persons infected with HIV, are at high risk of developing TB disease if TB infection is untreated.

What are the Symptoms of Tuberculosis?

The symptoms of TB include a low-grade fever, night sweats, fatigue, weight loss and a persistent cough. Some people may not have obvious symptoms.

How Soon Do Symptoms Appear?

Evidence of infection (a positive skin test) may occur from four to twelve weeks after exposure. The most hazardous period for developing clinical disease is usually within six to twelve months after infection, but can be latent, occurring much later in life.

When and for how long is a Person Able to Spread Tuberculosis?

A person with TB disease may remain contagious until he/she has been on appropriate treatment for several weeks. It is important to note that a person with TB infection, but not disease, cannot spread the infection to others, since there are no TB bacteria in the sputum.

What is the Treatment for Tuberculosis?

People with active TB disease must complete the prescribed course of medicine, which usually involves taking isoniazid (INH) for six to twelve months. TB infection is treated with isoniazid alone; treatment of TB disease usually requires three or more drugs. A physician must determine the exact medication plan.

What can be the Effect of not being treated for Tuberculosis?

In addition to spreading the disease to others, an untreated person may become severely ill or die.

What can be done to prevent the Spread of Tuberculosis?

The most important way to stop the spread of tuberculosis is to cover the mouth and nose when coughing, and to take the prescribed medicine as directed. Persons with disease should be excluded from school, daycare or the workplace until the sputum is negative (about 2-4 weeks after the beginning of treatment). All households and close contacts of a person with active TB disease should be screened using the Mantoux skin test for evidence of infection. All contacts with evidence of infection should be treated with INH. All high-risk populations should be TB skin tested routinely.

**QUESTIONNAIRE FOR EVALUATION OF SIGNS AND SYMPTOMS
OF TB IN HEALTH CARE WORKERS**

This form will be used for the following: 1) those who refuse PPD skin testing; 2) those with a history of a positive PPD skin test; or 3) those with a history of active TB disease.

Employee Name _____

History

o Refuses PPD Skin Testing

o TB Infection

* Positive Mantoux Skin Test ____ Yes ____ No
Date test administered/read: _____ /
Result of skin test: mm

* Chest X-ray ____ Yes ____ No
Date done:
Findings:

* Preventive Therapy ____ Yes ____ No
If yes, list medication, dosage, duration of therapy, and dates received:

o TB Active Disease

* Positive Mantoux Skin Test ____ Yes ____ No
Date test administered/read: _____ /
Result of skin test: _____ mm

* Chest X-ray ____ Yes ____ No
Date done:
Findings:

* Diagnostic Microbiology (sputum specimen)
Date/Findings: _____ /
_____ /
_____ /

* Treatment
List medication, dosage, duration of therapy, and dates received:

Over, please

APPENDIX E

Check if individual has experienced any of the following in the past year:

- weight loss
- night sweats
- cough
- fatigue
- fever
- coughing up sputum (phlegm from deep in the lungs) or blood
- loss of appetite
- pain in the chest when breathing or coughing
- chills

Comments:

Signature of Interviewer

Title

Date

For Employee:

The above listed signs/symptoms of TB have been reviewed with me. I understand that I must immediately report experiencing any of these symptoms, should they occur. I have received education regarding tuberculosis disease and the risk for developing active tuberculosis.

Employee Signature

Date

APPENDIX F

Protocol for investigating purified protein derivative (PPD) tuberculin skin test Conversions in health-care workers (HCWs)

