
WISCONSIN MEDICAID PUBLIC HEALTH UPDATE

OCTOBER 15, 1996

UPDATE PH96-01

TO:

All Providers

County/Tribal Aging Units

County Departments of:

Community Programs

Human Services

Public Health

Social Services

Local Health Departments

Tribal Human Service

Facilitators

Tuberculosis (TB)

TB on the rise

From 1994 to 1995, there was a seven percent increase in the number of reported cases of active tuberculosis (TB) in Wisconsin (109 to 117). According to recent reports regarding suspect and active cases of TB, some health care providers appear not to be adhering to established guidelines for the prevention and control of TB. Wisconsin Division of Health officials encourage providers to:

- Always report TB cases.
- Always follow isolation precautions.
- Always use the four drug regimen for treatment of active disease when appropriate.

Wisconsin Division of Health is using various publications to communicate current public health issues to as many Wisconsin health professionals as possible. On a periodic basis, we will send current public health information to Medicaid providers through *Wisconsin Medicaid Public Health Updates*.

Please share this Update!

Please share this update with all medical personnel including case managers, nurses, nurse midwives, nurse practitioners, physicians, physician assistants, social workers, and therapists.

We urge primary health care providers to call their local health department for a copy of the *Core Curriculum on Tuberculosis*, published by the Centers for Disease Control and Prevention (CDC).

The Wisconsin Administrative Code recommends all physicians treating TB to adhere to the American Thoracic Society and CDC treatment guidelines. The core curriculum covers all aspects of TB treatment including testing, diagnosis, contact investigation, and medication regimens.

Reporting

According to Wisconsin State Statutes and HSS 145.04 (1) (a), (3) (a) and 4 (a), Wisconsin Administrative Code,

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If you have questions, call Division of Health TB Program at (608) 267-3733

Or write to: Division of Health TB Program, Room 241, 1414 E. Washington Avenue, Madison, WI 53703

reporting requirements for a suspect or active case of TB are as follows:

- ▶ Health care providers must notify the local health department within 24 hours whenever an individual is suspected of having TB or has a confirmed case of TB.
- ▶ Local health departments in turn must notify the Division of Health TB Program immediately (or within 24 hours after they have been notified).

Recently, a substantial number of suspect cases have not been reported as required to the local health departments or to the Division of Health TB Program. "I urge health care providers to comply with reporting requirements to ensure timely contact investigation and provision of comprehensive services to the patient and the public," said Kevin B. Piper, Division of Health administrator, while discussing the TB rise in Wisconsin.

Isolation

Adherence to CDC's isolation recommendations will ensure that the public is not placed at risk of acquiring communicable diseases. Following are the CDC's recommendations.

The CDC's *Core Curriculum on Tuberculosis* considers patients infectious if *both* of the following conditions are met:

- (1) The patient is coughing, undergoing cough-inducing or aerosol-generating procedures, or has sputum smears positive for acid-fast bacilli.
- (2) The patient is not receiving therapy, just started therapy, or has a poor clinical or bacteriologic response to therapy.

Conversely, the CDC considers patients *not infectious* if they meet *all three* of the following criteria:

- (1) The patient has received adequate therapy for 2-3 weeks.
- (2) The patient has had a favorable clinical response to therapy.
- (3) The patient has three consecutive negative sputum smear results from sputum collected on different days.

Isolation precautions *must* be in place until a patient is considered non-infectious.

Four drug regimen

The CDC Advisory Committee and the Division of Health recommend that providers use the four drug treatment for TB until drug susceptibility results are known.

"I urge health care providers to comply with reporting requirements to ensure timely contact investigation and provision of comprehensive services to the patient and the public."

Kevin B. Piper, Division of Health Administrator

See Attachments 1 and 2 for dosage recommendations and recommended TB preventive therapy.

In Wisconsin, the anti-tuberculosis drug resistance exceeds 4 percent. Thus, the CDC recommends the empiric use of four drug regimens since the social and medical costs of a single relapse on a three drug regimen far outweigh the cost of treating multiple individuals with a four drug regimen.

Please use drug susceptibility tests since they are critical to ensure effective anti-tuberculosis treatment. Also, report promptly the results of susceptibility tests to the Division of Health TB Program. (The Division of Health TB Program provides the most accurate information about the incidence of drug resistant TB in Wisconsin.)

Directly observed therapy (DOT)

The CDC recommends that DOT be considered for *all* TB patients since it is not possible to predict with certainty which patients will adhere to medication on their own.

DOT involves witnessed ingestion of TB medications. The purpose of DOT is to ensure medication compliance so drug resistant strains of TB do not develop.

DOT may be witnessed by a variety of designated, responsible persons. In some cases this may be a visiting nurse or a public health nurse. In others, a responsible community member or employer may be used.

Several approved regimens for DOT have been developed that are based on a two-three time per week witnessed ingestion of anti-TB medications.

Check with the local health department for current resources and recommendations for DOT.

Directly observed preventive therapy (DOPT)

Witnessed ingestion of preventive therapy for TB also may be used.

Consider the following patients with the following conditions as high priority for DOT or DOPT:

- Resident of long-term care facility (e.g. correctional institution, nursing home, mental institution).
- Heavy alcohol use, drug abuse.
- HIV infection.
- History of non-compliance, e.g., history of missed appointments to the health department or physician.
- Homelessness.
- Severe mental illness.
- Infection with drug resistant *Mycobacterium tuberculosis*.

See Attachment 3 for follow-up activities regarding active TB disease.

CDC and Division of Health recommend HIV testing on all TB-infected individuals

We recommend that health care providers refer all PPD (purified protein derivative) positive patients for HIV counseling and testing. Please report the results of HIV testing to the public health nurse since it is necessary to accurately assess the impact of the HIV/AIDS epidemic on the incidence of TB in Wisconsin.

HIV infection is the greatest risk factor for the progression from TB infection to active disease. HIV status determines the treatment duration of tuberculosis infection. Treatment guidelines specify a twelve-month course of INH (isoniazid) for HIV-infected individuals, but only a six-month course for HIV-negative individuals.

TB is seen with increasing frequency among persons infected with HIV. Cases of multi-drug resistant TB are often found in HIV-positive individuals. In Wisconsin during 1995, HIV status was known for only 32% of TB patients.

While HIV status does not affect the treatment of tuberculosis disease, it does affect the overall health of the patient under treatment. The potential for dissemination is greater in HIV-infected patients than in those not co-infected. Immune status information is crucial for adequate patient management and is part of the TB standard of care.

Interpretation of TB reactions in persons with a history of BCG vaccination

In screening patients for tuberculosis, the Wisconsin TB program recommends that health care providers consider all positive PPDs as evidence of possible primary infection and clinically evaluate patients with positive PPD test results regardless of BCG (bacille Calmete-Guérin) vaccination history.

Sensitivity to tuberculin is highly variable in persons vaccinated with BCG and depends upon the strain of BCG used and the group vaccinated. There is no reliable method of distinguishing tuberculin reactions caused by BCG from those caused by natural infections. A reaction to tuberculin in a person with a history of BCG vaccination is more likely to be due to infection with *M. tuberculosis* if one of the following are present:

- ✓ The induration is greater than 10mm.
- ✓ The person was vaccinated a long time ago (tuberculin sensitivity wanes considerably after vaccination)¹.
- ✓ The person had recent contact with a person with infectious TB.

¹American Thoracic Society. The Tuberculin Skin Test 1981.

- ✓ There is a family history of TB.
- ✓ The person comes from an area where TB is common.
- ✓ Chest radiograph findings show evidence of previous TB.

Because recommendations for the use of BCG vaccination are limited to people that will be continuously exposed to infectious TB, it is highly likely that a positive tuberculin skin test in a BCG-vaccinated person is due to TB infection.

Reminder that Wisconsin Medicaid expanded eligibility to cover individuals infected with TB

Effective for dates of service on and after July 29, 1995, Wisconsin Medicaid expanded eligibility for individuals infected with TB or who have active disease and who meet financial eligibility. For further information on Medicaid TB services, refer to Update 96-03 or Update 96-08.

For individuals who are not Medicaid-eligible and have no other insurance, contact your local health department for assistance in locating services for these individuals.

Help prevent and control TB...

Please do all of the following:

- ▶ Report cases.
- ▶ Isolate infectious patients.
- ▶ Use the four drug regimen.
- ▶ Use DOT or DOPT as appropriate.
- ▶ Refer positive PPD patients for HIV counseling and testing.
- ▶ Evaluate positive PPD patients with a history of BCG vaccination.

Attachment 1

Dosage Recommendations

Dosage Recommendations for the Treatment of TB in Children* and Adults

Drug	Daily Dose		Twice-Weekly Dose		Thrice-Weekly Dose	
	Children	Adults	Children	Adults	Children	Adults
Isoniazid	10-20 mg/kg Max. 300 mg	5 mg/kg Max. 300 mg	20-40 mg/kg Max. 900 mg	15 mg/kg Max. 900 mg	20-40 mg/kg Max. 900 mg	15 mg/kg Max. 900 mg
Rifampin	10-20 mg/kg Max. 600 mg	10 mg/kg Max. 600 mg	10-20 mg/kg Max. 600 mg	10 mg/kg Max. 600 mg	10-20 mg/kg Max. 600 mg	10 mg/kg Max. 600 mg
Pyrazinamide	15-30 mg/kg Max. 2 gm	15-30 mg/kg Max. 2 gm	50-70 mg/kg Max. 4 gm	50-70 mg/kg Max. 4 gm	50-70 mg/kg Max. 3 gm	50-70 mg/kg Max. 3 gm
Ethambutol†	15-25 mg/kg	15-25 mg/kg	50 mg/kg	50 mg/kg	25-30 mg/kg	25-30 mg/kg
Streptomycin	20-40 mg/kg Max. 1 gm	15 mg/kg Max. 1 gm	25-30 mg/kg Max. 1.5 gm	25-30 mg/kg Max. 1.5 gm	25-30 mg/kg Max. 1.5 gm	25-30 mg/kg Max. 1.5 gm

*Children ≤12 years of age.

†Ethambutol is generally not recommended for children whose visual acuity cannot be monitored (children <8 years of age). However, ethambutol should be considered for all children with organisms resistant to other drugs, if susceptibility to ethambutol has been demonstrated or susceptibility is likely.

Source: U.S. Department of Health and Human Services, *Treatment of Tuberculosis and Tuberculosis Infection in Adults and Children*, 1994.

**Attachment 2
Recommended TB Preventive Therapy***

Risk Factors	PPD	<35 years old	≥ 35 years old
HIV + or at risk for HIV infection but HIV status is unknown Close contact to recently diagnosed TB case Previously untreated or inadequately treated person with abnormal stable chest radiograph that shows fibrotic lesions likely to represent old healed TB	≥ 5 mm	Preventive therapy, regardless of age	
Drug user who is HIV negative Person with medical condition associated with an increased risk of TB: 1. silicosis/gastrectomy/jejunoileal bypass 2. ≥ 10% below ideal body weight 3. chronic renal failure, diabetes mellitus 4. immunosuppression 5. some hematologic disorders, malignancies	≥ 10 mm	Preventive therapy, regardless of age	
Foreign-born, from a country with high TB prevalence (eg. Asia, Africa, Latin America) Member of medically underserved, low-income population, including high-risk racial or ethnic minority population (e.g., Blacks, Hispanics, American Indians) Resident of long-term care facility (e.g., correctional institution, nursing home, mental institution) Employee in health-care facility not cited above, school, child-care setting*	≥ 10 mm	Preventive therapy	Preventive therapy should be considered on a case-by-case basis*
Recent converter	≥ 10 mm increase within a two year period	Preventive therapy	Preventive therapy should be considered on a case-by-case basis*
Recent converter	≥ 15 mm increase within a two year period	Preventive therapy, regardless of age	
Any individual who does not meet any of the above criteria*	≥ 15 mm	Preventive therapy	Preventive therapy should be considered on a case-by-case basis*

*Sources: U.S. Department of Health and Human Services, *Core Curriculum on TB, 4/94*;
 Wisconsin Bureau of Public Health, *TB Reference Handbook for Local Public Health Agencies, 7/92*;
 This table was adapted from a previous version developed by the Madison Department of Public Health, Madison, Wisconsin.

*(NOTE: Baseline liver function tests (LFTs) should be obtained for all individuals placed on preventive therapy; monthly LFTs should be obtained for those with liver abnormalities/symptoms, and especially for those ≥ 35 years old.)

Special Attention

Contraindications

1. Concurrent use of other medication (possible drug interactions)
2. Daily use of alcohol (possible higher incidence of INH-associated liver injury)
3. Current chronic liver disease (difficulty in evaluating changes in hepatic function)
4. Pregnancy (prudent to defer INH treatment until post-partum unless contact, new infection, active disease, or other urgent indication)

Please refer to the
*Physicians Desk
 Reference.*

Active TB Disease - Follow-up Activities*

Active TB Disease - Follow-up Activities		
Task	Primary Care Provider's Responsibility	Local Health Department's (LHD) Responsibility
Monitor success of treatment	Serial sputum and cultures Chest X-rays to assess improvement	LHD encourages patient to complete follow-up
Monitor for side effects of medication	Medical testing as needed	Take history monthly on problems associated with drug regime
Assess compliance with treatment program	Develop individualized plan in coordination with patient and public health nurse to promote compliance	Coordinate with primary care provider and patient. Public health nurse may do pill counts or participate in directly observed therapy (DOT)
Release from isolation when no longer infectious	Notify local health department prior to release--If employer has been notified of exclusion, notify employer that patient may return to work	LHD has the authority to commit a patient to mandated therapy if non-compliant

*Adapted from materials produced by the Coalition to Prevent TB in Dane County.