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To: Wisconsin Local Health Departments and Tribal Health Agencies

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Wisconsin Tuberculosis Program Statement on the *National Tuberculosis Coalition of America (NTCA) Guidelines for Respiratory Isolation and Restrictions to Reduce Transmission of Pulmonary Tuberculosis in Community Settings (2024)*

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Background

Tuberculosis is caused by the bacteria, *Mycobacterium tuberculosis.* It is spread from person to person through the air when someone with active infectious tuberculosis (TB) coughs, sings, or speaks. Isolation is the practice of separating individuals with infectious TB from others to prevent the spread of infection. In Wisconsin, most patients with infectious TB reside at home or in another community setting during the required isolation period. Recently, the National Tuberculosis Coalition of America (NTCA) recognized a national need to provide guidelines backed by current evidence for safe isolation of TB patients within the community.

Summary of Wisconsin TB Program Endorsements

The Wisconsin Tuberculosis (TB) Program endorses the use of the *NTCA Guidelines for Respiratory Isolation and Restrictions to Reduce Transmission of Pulmonary Tuberculosis in Community Settings, 2024* to guide decisions about respiratory isolation and restrictions (RIR) for people with TB (PWTB) in the state of Wisconsin. The revised guidelines describe RIR as a spectrum comprised of 3 levels: No restrictions, moderate/midlevel restrictions, and extensive restrictions (see Table 1). The TB Program offers the following comments regarding implementation of RIR:

- All people with confirmed active infectious TB should remain in extensive restrictions *at least* until adequate therapy[1] is started.

[1]Adequate therapy is defined as a regimen expected to be effective for drug-susceptible or drug-resistant tuberculosis.

- All people newly diagnosed with respiratory tract TB (for example, pulmonary, laryngeal) should remain, at minimum, in midlevel/moderate restrictions until they have been on therapy for *at least 5 days* via directly observed therapy (DOT), are tolerating therapy, demonstrate clinical improvement (for example, resolution of fever or decreased cough frequency), are compliant with the treatment plan as outlined with the provider and local or Tribal health department (LTHD), and are presumed to have drug-susceptible TB.
    - If a smear positive respiratory sample is available, TB NAAT testing should be performed. If a TB NAAT positive respiratory sample is available, molecular testing for the detection of drug resistance for rifampin (for example, GeneXpert) should be performed and results known before release from isolation. If the performing lab does not have this capability, specimens must be sent to WSLH promptly for this testing.
    - People under midlevel/moderate restriction isolation should be highly encouraged to wear a surgical mask for essential indoor activity outside their home or residence.
    - Essential activity is defined as any activity critical for the health of the person, such as picking up food or medications. Prolonged activities, such as returning to employment, should be avoided until the person is released from midlevel/ moderate restrictions. Any activities that are not urgent (for example, dental cleaning visits) should be delayed or rescheduled.
    - Most outdoor activities in uncrowded areas away from vulnerable individuals[2] are permissible for patients under midlevel/moderate restrictions.
- People with extrapulmonary TB should remain in extensive restrictions until they have been evaluated for respiratory tract TB via symptom evaluation, chest imaging, and sputum collection for AFB smear, TB NAAT, and AFB culture evaluation. People unable to spontaneously expectorate a sputum sample should receive sputum induction, if available; alternately, individuals unable to produce a sputum sample spontaneously or after induction who have lung imaging abnormalities should undergo bronchoscopy. We encourage rapid assessment (ideally, within 5 days of suspecting extrapulmonary TB diagnosis) for pulmonary TB in such patients, so that unnecessary restrictions can be reduced.

Table 1. Definitions of Levels of Respiratory Isolation and Applicable Time Frames

Level of Respiratory Isolation	Definition	Timeframe
Extensive	Movement strictly limited to an agreed-upon location, such as a home or other residence. Any exceptions to extensive RIR should be discussed and agreed with the LTHD. When an individual leaves the primary site of RIR (such as for a healthcare visit), additional measures to reduce TB transmission risk may be warranted, including, but not limited to: a. personal protective equipment (e.g., N95 masks) for close contacts, b. face masks (i.e., surgical masks, KN95, N95) for the PWTB c. efforts to improve ventilation (e.g., open windows during transportation in cars, negative-pressure rooms or HEPA filters).	• For persons with Pulmonary TB: prior to initiation of adequate TB therapy[1] • For persons with extrapulmonary TB: when pulmonary involvement has not ruled out

[2]Medically vulnerable: people with immune-compromising conditions (for example, people living with HIV) or children under the age of 5.

	Visitors to the PWTB's residence should be avoided unless approved by the local health department; if approved, they should wear personal protective equipment (e.g., N95).	
Midlevel/Moderate	Majority of time is spent at an agreed-upon location, such as a home or residence. Individual may engage in most activities in outdoor or well-ventilated environments. A mask (surgical mask, KN95, or N95) should be worn by the PWTB during indoor activities deemed essential by the LTHD, particularly if there is contact with previously unexposed individuals. If indoor, avoid prolonged (multiple hours) or repeated close contact with others, particularly individuals not previously exposed and medically vulnerable persons. Indoor activities in settings of poor ventilation or crowding should be avoided. In settings at higher risk of transmission (e.g., healthcare visits) or with the potential risk of transmission to vulnerable populations, additional risk reduction measures may be warranted, including a. personal protective equipment (e.g., N95 masks) for close contacts, b. face masks (i.e., surgical masks, KN95, N95) for the PWTB c. efforts to improve ventilation (e.g., open windows during transportation in cars, negative-pressure rooms or HEPA filters). Visitors should be avoided unless approved by the LTHD and should wear personal protective equipment (e.g., N95 mask).	Day 0- Day 5 of adequate therapy[1]
No Restrictions	Individuals have no restrictions and may engage in daily activities as usual, irrespective of setting or potential contacts.	After release from RIR while the PWTB remains on adequate TB therapy

Rationale

These guidelines are meant to change a longstanding, now obsolete, paradigm that has coupled AFB positive smears to infectiousness. While smear and culture results are an important indicator of potential infectiousness ***prior to the initiation of effective therapy***, studies have shown poor correlation between smear or culture positivity and infectiousness *after the start of adequate therapy*. Sputum collection for AFB smear and culture is therefore no longer needed to set the level of RIR in most situations in community settings.

Since culture conversion remains an important tool to monitor individual response to therapy, the Wisconsin Tuberculosis Program recommends obtaining sputum collection once weekly (in patients smear-positive at diagnosis) or once every other week (if smear-negative at diagnosis) until there are two consecutive AFB culture-negative results (constituting "culture conversion") to guide assessment of response to TB therapy.

These updated guidelines cannot address all situations that may be encountered while caring for a person with active TB disease. The Wisconsin TB program welcomes questions or concerns interpreting these guidelines or applying them to individual patients at DHSWITBProgram@dhs.wisconsin.gov.

Application

The Wisconsin Tuberculosis Program would like to emphasize that **the guidelines are intended for community and non-congregate settings only**. Health care facilities, correctional facilities, homeless shelters, and long-term care facilities should follow the Guidelines for Preventing the Transmission of Mycobacterium tuberculosis in Health-Care Settings, 2005, for the release from respiratory isolation/ airborne infection isolation (AII).

Consultation with the Wisconsin Tuberculosis Program is recommended for those with suspected or confirmed drug resistance. Additionally, in select cases, before extensive restrictions can be lifted for the PWTB, close or vulnerable contacts may need to have started window prophylaxis.[3]

Adherence to a treatment plan for people with TB (PWTB) may be challenging for many reasons, including socioeconomic and cultural barriers or issues with medication tolerance. Public health authorities such as health officers maintain the right and responsibility to rescind or revoke any decisions previously made about potential infectiousness in the event that the PWTB are not able or willing to adhere to the treatment plan. In the case of treatment interruptions, the risk for return of infectiousness depends on many factors, including but not limited to, burden of disease, amount of treatment completed, strength of regimen against particular strain of TB, and immune status of the PWTB. Please notify the Wisconsin Tuberculosis Program (DHSWITBProgram@dhs.wisconsin.gov) of any treatment interruptions longer than one week.

Resources

- NTCA Guidelines for Respiratory Isolation and Restrictions to Reduce Transmission of Pulmonary Tuberculosis in Community Settings
- Guidelines for Preventing the Transmission of *Mycobacterium tuberculosis* in Health-Care Settings, 2005
- Additional frequently asked questions (FAQ) for clarification of recommendations in the "Guidelines for preventing transmission of Mycobacterium tuberculosis in health-care settings, 2005"
- Prevention and Control of Tuberculosis in Correctional and Detention Facilities: Recommendations from CDC. Endorsed by the Advisory Council for the Elimination of

[3] Medically vulnerable contacts may be given treatment for latent tuberculosis if they have a negative TB blood test or TB skin test result, and negative chest radiograph, if less than 8 to 10 weeks have passed since they were last exposed to TB. This practice is called window prophylaxis.

Tuberculosis, the National Commission on Correctional Health Care, and the American Correctional Association

- Tuberculosis Infection Control: A Practical Manual for Preventing TB, Curry International Tuberculosis Center, 2011
- Guidelines for Home and Hospital Isolation of Infectious Tuberculosis Patients, Heartland National TB Center, 2019