



Nontuberculous Mycobacteria (NTM) Infections: Information for Providers and Local and Tribal Health Partners

Nontuberculous mycobacteria (NTM) are mycobacteria other than *M. tuberculosis* (the cause of tuberculosis) and *M. leprae* (the cause of leprosy). NTM are also referred to as atypical mycobacteria or environmental mycobacteria. Some commonly isolated nontuberculous mycobacteria include *M. abscessus*, *M. avium* complex (MAC), *M. chelonae*, *M. fortuitum*, *M. goodii*, *M. marinum*, *M. mucogenicum*, *M. peregrinum*, and *M. xenopi*.

Where are NTM found?

- NTM are environmental organisms that can be found in soil, dust, and water including natural water sources (such as lakes, rivers, and streams) and municipal water sources (such as water that people drink or shower in). NTM can form difficult-to-eliminate biofilms, which are collections of microorganisms that stick to each other, and adhere to surfaces in moist environments, such as the inside of plumbing in buildings.
 - Some regions of the country have higher incidence of environmental NTM (near large bodies of fresh water), such as the Great Lakes Region.
- Although anyone can get an NTM infection, NTM are opportunistic pathogens placing some groups at increased risk, including those with underlying lung disease or suppressed immune systems.
- With few exceptions, NTM pathogens are typically not transmitted person-to-person.
 - Person-to-person transmission of *M. abscessus* has been reported in patients with cystic fibrosis.
 - There is some evidence of spread of organisms from NTM skin lesions.
 - In general, people with respiratory disease from NTM do not readily infect others and do not need to be isolated from others.
 - The majority of NTM infections come from the environment.

What does an NTM infection look like?

NTMs can cause infections in a wide variety of body sites, most commonly the lungs and in the following areas:

- Skin and soft tissue (typically following surgery, trauma, injection of medications or other substances)
- Device-associated infections (e.g., central line-associated bloodstream infection, exit-site infections, pacemaker pocket-site infections, etc.)
- Lymph nodes (most commonly in children or immunocompromised individuals with HIV/AIDS)
- Blood (disseminated) or other usually sterile locations in the body, most commonly in immunocompromised patients, such as those with HIV or AIDS, but may also be due to invasive medical devices or procedures

Symptoms can be vague and nonspecific, such as:

- Fever
- Weight loss
- Night sweats
- Decreased appetite
- Loss of energy

Other symptoms depend on the site of infection and can include cough, shortness of breath, blood in the sputum, and rashes.



Are NTM infections reportable?

Non-tuberculous mycobacterial disease is reportable in Wisconsin. For the case definition, reporting, investigation and intervention requirements, please see the [NTM Communicable Disease Case Reporting and Investigation Protocol](#).



What public health follow-up is needed?

- Case investigation may include collecting information to assure complete documentation in the Wisconsin Electronic Disease Surveillance System (WEDSS), see Table 1.
- Review of interpretation of test results and clinical information is needed to assure the correct case classification.
- Preventative treatment of close contacts of a person with NTM disease is not necessary and public health case management is not warranted.

Table 1. Documenting NTM Disease in WEDSS

Scenario	First Steps	Additional Steps
<p>The types of results listed below, indicating confirmed NTM infection, may be received in WEDSS or from a provider report:</p> <p>"<i>M. avium</i> complex DNA detected" MAC PCR</p> <p>Mycobacteria culture growth ("Mycobacteria ID") results:</p> <p><i>M. avium</i> complex (MAC)</p> <p><i>M. abscessus</i></p> <p><i>M. chelonae</i></p> <p><i>M. fortuitum</i> (group)</p> <p><i>M. gordonae</i></p> <p><i>M. marinum</i></p> <p><i>M. mucogenicum</i></p> <p><i>M. peregrinum</i></p> <p><i>M. xenopi</i></p> <p>Mycobacteria species (not TB)</p> <p>Other <i>Mycobacterium</i> species</p>	<p>Each jurisdiction should make a policy on how to proceed. The Wisconsin Tuberculosis (TB) Program recommends the following:</p> <p>Create a "Mycobacterial Disease (Non-tuberculous)" Disease Incident (DI) to house the laboratory report.</p> <p>Contact the ordering health care provider to obtain patient demographics and address (as necessary).</p> <p>Gather any additional medical/treatment information available and include in the WEDSS DI.</p>	<p>Document any follow-up, in the Notes/Remarks section (Investigation tab) in WEDSS.</p> <p>Change the Resolution Status to "Confirmed".</p> <p>When all information has been gathered and WEDSS documentation is complete, change the Process Status to "Final".</p>

References

1. Centers for Disease Control and Prevention (CDC): <https://www.cdc.gov/hai/organisms/nontuberculous-mycobacteria.html>
2. American Thoracic Society (ATS): <https://www.thoracic.org/patients/patient-resources/resources/ntm.pdf>

