

Nontuberculous Mycobacteria (NTM) disease

What is Nontuberculous Mycobacteria (NTM) disease?

NTM are bacteria that are found in the environment. Breathing these bacteria into your lungs may cause disease in both healthy people and people with weakened immune systems. NTM disease most often affects the lungs in adults, but it can affect any body site. Unlike tuberculosis (TB), NTM disease does not spread from person to person. The number of people with NTM disease is increasing worldwide.

What causes NTM disease?

There are over 160 different kinds of NTM bacteria. Some types are more common in different parts of the world than others. The most common types are *Mycobacterium avium* complex (MAC), *Mycobacterium abscessus* complex and *Mycobacterium kansasii*. Everyone inhales NTM bacteria into their lungs but only a very small number of people get sick with NTM disease.

Who gets NTM disease?

Some people are more likely to develop NTM disease. People with lung diseases like bronchiectasis (enlargement of the airways), chronic obstructive pulmonary disease (COPD), cystic fibrosis, alpha-1 antitrypsin deficiency, or people who have had other lung infections in the past (like TB) are more likely to get NTM disease.

What are the signs and symptoms of NTM lung disease?

NTM in the lungs causes symptoms similar to pneumonia that does not go away:

- Cough with sputum (phlegm or mucous)

- Fatigue (feeling tired)
- Fever
- Coughing up blood
- Unexplained weight loss
- Shortness of breath
- Night sweats

How is NTM disease diagnosed?

It can be hard to tell who is carrying the bacteria and is not sick (we call this colonized) from those with true NTM disease. Diagnosis of NTM depends on all of the following:

- Tests that show the NTM bacteria are there
- Radiology (chest x-ray or CT scan)
- Clinical judgement based on symptoms and other tests showing evidence of disease

Sputum (phlegm or mucous) is looked at under the microscope to see if NTM bacteria are there. Cultures are also done to see if the NTM bacteria grows. Some NTM grow within a few days, but some take several weeks to grow.

The best way to get sputum is to cough out three early morning samples on different days. If sputum samples are difficult to get, a thin, flexible tube with a camera (a bronchoscope) may be required to get samples. If other parts of the body are affected, fluids or tissues may also need to be collected.

Your health care provider will order other tests like a chest x-ray or CT scan. Your health care provider will discuss which tests are best for you and what the results show.

How is NTM disease treated?

Treatment depends on the type of NTM bacteria. Treatment may be more successful for some types of NTM bacteria than others. Usually, NTM in the lungs is treated with three or more antibiotics until sputum cultures are negative for 12 months. Treatment can often take 18 months or longer to complete. Some of the antibiotics used to treat NTM like MAC include macrolides (azithromycin or clarithromycin), ethambutol and rifamycins. Treatment may be hard to take due to side effects and monitoring during treatment is recommended. This includes clinic appointments, blood work and other tests. Other therapies may also be used, such as airway clearance. Repeat sputum cultures are usually done during treatment to see if the treatment is working.

What can you do to stay healthy?

- Get medical attention if you have a cough or other respiratory symptoms that last longer than two weeks
- If you are being treated for pneumonia, tell your health care provider if your symptoms do not get better or if you cough up blood
- Take all medications and antibiotics as prescribed
- Get your influenza ("flu") vaccine every year. Ask your health care provider which other vaccines are recommended for you
- Avoid using or second-hand exposure to tobacco products

For more information

For more information, visit [NTM Info and Research Inc. Nontuberculous Mycobacteria](https://ntminfo.org/canada/) at <https://ntminfo.org/canada/>



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