

### What are Nontuberculous Mycobacteria?

- ✓ Nontuberculous mycobacteria (NTM) are a family of bacteria. They are related to the bacteria that causes tuberculosis. They are also referred to as atypical mycobacteria.
- ✓ NTM are widespread in the environment, especially in soil and standing water, such as hot tubs and some shower heads.
- ✓ NTM are usually harmless. Most people do not get sick when exposed to NTM.
- ✓ Individuals with the highest risk of getting an NTM lung infection are those with either:
  - ☐ A chronic lung disease such as bronchiectasis, COPD, or cystic fibrosis; or
  - ☐ A weakened immune system
- ✓ Of the more than 190 different types of NTM, the three most common causes of lung infection are: *Mycobacterium avium complex* (MAC), *Mycobacterium abscessus*, and *Mycobacterium kansasii*.
- ✓ NTM lung infections are caused by inhaling NTM from the environment. These infections usually do not spread from one person to another.
- ✓ Symptoms of an NTM lung infection include: cough with sputum (mucus) production, fatigue, weight loss, night sweats, fever, and shortness of breath. A late symptom is coughing up blood (hemoptysis).

### How are NTM Lung Infections Diagnosed?

- ✓ Many people have NTM in their lungs, without having an active NTM lung infection. This is referred to as colonization.
- ✓ Sputum (mucus) cultures are used to confirm the presence of an NTM organism in the lungs. Three different sputum cultures are needed, each from a sample collected on a different day. The same organism must be found in each sputum culture to suggest an active NTM lung infection. It can take up to several weeks to get these results.
- ✓ Confirmation of an active NTM lung infection is based on symptoms and high-resolution CT scan.
- ✓ Sometimes a bronchoscopy is needed to obtain adequate cultures or confirm the diagnosis.

### How are NTM Lung Infections Treated?

- ✓ Treatment decisions are based on symptoms and the specific organism identified.
- ✓ NTM lung infections can be challenging to treat. If possible, work with a pulmonologist or infectious disease specialist with experience treating NTM lung infections.
- ✓ Airway clearance therapy plays a major role in treating both NTM colonization and infection. It is used to get mucus out of the airways.
  - ☐ Airway clearance therapy can prevent colonization from becoming an infection.
  - ☐ There are many types of airway clearance therapies. Detailed information about types of airway clearance therapy is provided in AlphaNet's Big Fat Reference Guide (BFRG) available at <https://bfrg.alphanet.org>.
- ✓ Antibiotics are necessary when there is active NTM lung infection with systemic symptoms such as night sweats, fever, and weight loss. Antibiotic treatment involves taking at least 3 antibiotics for months or years. Close medical follow-up is required throughout treatment.
- ✓ In severe cases, surgery is sometimes needed to remove infected areas of the lung.
- ✓ Many people experience full recovery from an NTM lung infection. Symptoms are usually reduced even when the infection is not cured. It is possible to have an NTM lung infection more than once.

### Are Alphas More Likely to Get an NTM Lung Infection?

- ✓ Alphas may be more susceptible to NTM lung infections than other individuals.
- ✓ This may simply be that Alphas are more likely to have bronchiectasis, which increases the risk of an NTM lung infection.
- ✓ Some research suggests alpha-1 antitrypsin (AAT) may help protect against NTM lung infections, and deficiency of AAT can reduce the ability to fight NTM lung infections.