

Nontuberculous Mycobacterial Pulmonary Disease (NTM-PD)

NTM-PD is becoming an increasingly prevalent disease in the United States and in many places in the world.

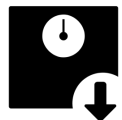
How do you recognize and diagnose it? What are the basic tenets of treatment?



CLINICAL PRESENTATION



Fever



Weight Loss



Cough
↑ Sputum



Shortness of Breath

ATS/ERS/ESCMID/IDSA Diagnostic Criteria² (All three criteria required and exclusion of alternative diagnosis)



Clinical Features

Pulmonary or systemic symptoms (as above)



Radiographic Changes

Nodular or cavitary lung opacities on chest imaging, or
Chest CT showing bronchiectasis with multiple small nodules (tree-in-bud appearance)



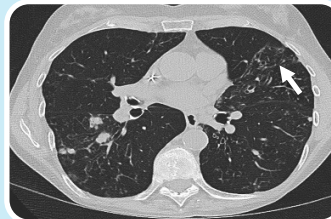
Microbiology

Positive sputum culture results from >2 samples, or
Positive bronchial wash or BAL culture, or
Transbronchial/lung biopsy with mycobacterial histologic features and positive culture for NTM, or
Biopsy showing mycobacterial histologic features and >1 sputum or bronchial culture positive for NTM

¹McShane PJ, Glassroth J. Pulmonary disease due to NTM: current state and new insights. *Chest*. 2015.

²Daley CL, Iaccarino JM, Lange C, etc. Treatment of nontuberculous mycobacterial pulmonary disease: an official ATS/ERS/ESCMID/IDSA clinical practice guideline. *Eur Respir J*. 2020.

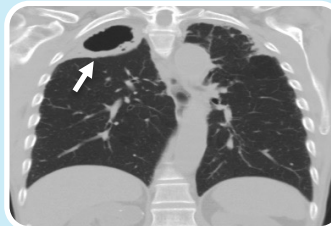
Radiographic Patterns or Clinical Phenotypes¹



Fibronodular Bronchiectasis

(Often in post-menopausal women)

- Nodular and small centrilobular nodules or tree-in-bud opacities
- Bronchiectasis with right middle lobe and lingular predominance



Fibrocavitary

(Often coexisting emphysema in men)

- Upper lobe predominant cavitation
- Adjacent ground glass +/- micronodules



Hypersensitivity Pneumonitis

("Hot tub lung")

- Diffuse ill-defined centrilobular nodules with ground glass
- Associated with inhalation exposure (eg, MAC from hot tub)

Treatment Pearls for *M. Avium* Complex (MAC) Lung Disease²

- Typically includes a **three-drug regimen** based on drug-susceptibilities for macrolide and amikacin; consider consultation with specialist
- Duration: At least 12 months after sputum culture conversion
 - **Macrolide (Azithromycin preferred) + Rifamycin + Ethambutol**
 - Cavitary/severe disease/macrolide-resistance → add IV amikacin or streptomycin and daily oral antimicrobial therapy
 - No response after treatment for 6 months (probable refractory MAC lung disease) → consider adding inhaled liposomal amikacin