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Information for Physicians Regarding the Microbiologic Monitoring of Adults with Pulmonary Tuberculosis (TB)

During TB treatment, sputum specimens for acid fast bacilli (AFB) and culture for *Mycobacterium tuberculosis* (*M. tb*) should be obtained periodically to: 1) monitor and document the patient's response; 2) determine the appropriate length of treatment; and 3) confirm that the patient has become noninfectious. Drug susceptibility testing should be performed on an initial positive culture for *M. tb* and for patients with a positive culture after more than 3 months of treatment¹

Microbiologic monitoring during TB treatment is a recommended public health practice¹

Serial microbiologic monitoring in the early phases of TB treatment is recommended practice by the American Thoracic Society (ATS), Centers for Disease Control and Prevention (CDC) and the Infectious Diseases Society of American (IDSA) until the patient has three negative sputum AFB smears. Prompt conversion to culture-negative sputum is not only reassuring, it allows for the use of short-course TB therapy. National guidelines also suggest that for patients with pulmonary TB, a sputum specimen be obtained at a minimum of monthly intervals (after AFB smear negative conversion) until two consecutive specimens are *M. tb* negative on culture.¹ For multidrug-resistant (MDR)-TB disease, monitoring of sputum for AFB smear and culture positivity is even more important, and monthly monitoring throughout the entire duration of treatment is recommended.² Sputum induction may be necessary when patients are not producing sputum spontaneously.

Conversion to culture-negative sputum is an indicator of the patient's response to TB treatment

The ATS/CDC/IDSA treatment of TB guidelines¹ and the 2003 "Guidelines for the Treatment of Active Tuberculosis Disease" by the California Department of Public Health (CDPH) and California Tuberculosis Controllers Association (CTCA) recommends treatment extension in certain patients that are at risk for relapse.³ This includes extending treatment to nine months in patients with a positive sputum culture at the completion of two months of TB therapy. In addition, if a patient is persistently sputum culture positive for *M. tb* after more than 3 months of treatment, it is recommended to obtain drug susceptibility testing to assess possible acquired drug resistance. Therefore, it is of utmost importance that culture conversion be pursued and documented so that an appropriate treatment course can be prescribed.

For additional information about sputum induction, microbiologic monitoring and other aspects of TB clinical management, please contact your local public health department TB control program.

1. [Treatment of Tuberculosis: American Thoracic Society, CDC, and Infectious Diseases Society of America](#), MMWR 2003, 52 (No. 31) [p. 607].
2. Francis J. Curry National Tuberculosis Center and California Department of Public Health, 2008: [Drug Resistant Tuberculosis: A Survival Guide for Clinicians](#), 2nd Edition. [p. 135].
3. CTCA/CDPH Joint Guidelines, "[Guidelines for the Treatment of Active Tuberculosis Disease](#)", April 15, 2003. [p. 3].

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