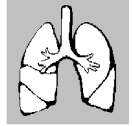




## CDHS/CTCA JOINT GUIDELINES Guidelines for Mycobacteriology Services in California



The following guidelines have been developed by the California Department of Health Services, Tuberculosis Control Branch in consultation with the Executive Committee of the California Tuberculosis Controllers Association, and the California Association of Public Health Laboratory Directors. These guidelines are official State Recommendations and have been endorsed by the California Tuberculosis Controllers Association, and the California Association of Public Health Laboratory Directors.

The California Department of Health Services (CDHS), the California Tuberculosis Controllers Association (CTCA), and the California Association of Public Health Laboratory Directors (CAPHLD) endorse *the following italicized recommendations* based on those of the Advisory Council for the Elimination of Tuberculosis (ACET), Centers for Disease Control and Prevention (CDC), and Association of State and Territorial Public Health Laboratory Directors (ASTPHLD) (1-3). These recommendations are intended for use by health care providers, laboratorians, and public health staff. The purpose of these Guidelines is to establish a standard of practice for mycobacteriology laboratories in California, since the use of rapid, accurate mycobacteriology laboratory service and the prompt reporting of results to providers and local health departments are essential to the control of tuberculosis (TB).

### *Laboratory Methods to Improve Accuracy and Turnaround Times*

#### I. *Fluorescent acid fast staining procedures.*

- A. Since fewer fields need to be read, fluorochrome stained smears are more likely to be read adequately.
- B. Concentrated smears are recommended.

#### II. *Inoculation of a liquid medium as primary culture in addition to solid media.*

- A. Liquid media improves the sensitivity of culture (4). Use of selective liquid medium shortens the time to detection of growth by approximately one week (5).

#### III. *Rapid methods to identify M. TB once growth is detected.*

- A. Methods such as nucleic acid probes, the BACTEC NAP test, or HPLC allow rapid identification.

#### IV. *Radiometric or similar systems to test all initial M. TB isolates for susceptibility to first line drugs.*

- A. All initial isolates must be tested to determine the most effective drugs with which to treat the patient and contacts. The use of a liquid system is more rapid.
- B. It is also best to choose a laboratory which performs the full range of mycobacteriology testing from acid fast smears and specimen processing through organism identification and drug susceptibility testing. This generally results in a shorter (by three weeks or more) turnaround time from receiving the specimen in the laboratory to issuing a final report. Laboratories which participate in the “BACTECs by mail” program also achieve the shorter turnaround time.

***Reporting Results as Soon as Available to Providers and Health Departments by Phone or Fax  
Followed by a Written Report***

- I. State regulation (17 CCR§2505) requires the reporting of any laboratory findings suggestive of TB, as well as drug susceptibility results, to the health officer within 1 day of notification of the health care provider.
  - A. Note that some local health officers require the reporting of non-tuberculous mycobacteria.
  - B. See also 17 CCR§2505 for additional requirements for labs, including performing drug susceptibility testing on all initial isolates, culturing specimens that are smear positive, and forwarding *M. tuberculosis* isolates to the local public health lab.

**Use of Nucleic Acid Amplification Tests**

- I. Nucleic Acid Amplification techniques have been approved by the Food and Drug Administration for use in smear positive respiratory specimens in untreated patients only.
  - A. This is an optional testing technique for experienced laboratories for rapid diagnosis of smear positive specimens.
  - B. These specimens should also be cultured using normal techniques.

**NOTE:** No set of guidelines can cover all individual laboratory situations which can and will arise. Thus, when questions on individual situations not covered by these guidelines do arise, consult with your local health department Tuberculosis Control Program for further information.

**References:**

1. CDC. Essential components of a TB prevention and control program. Recommendations of the Advisory Council for the Elimination of TB. MMWR 1995;44(No. RR-11):12-13.
2. Tenover, F.C., J.T. Crawford, R.E. Huebner, L.H. Geiter, C.R. Horsburgh, and R.C. Good. 1993. The Resurgence of Tuberculosis: Is Your Laboratory Ready? J. Clin. Microbiol. 31:767-70.
3. Association of State and Territorial Public Health Laboratory Directors and CDC. Mycobacterium tuberculosis: Assessing your laboratory. March, 1995.
4. Wilson, M.L., Stone, B.L., Hildred, M.V., Reves, R.R. 1995. Comparison of Recovery Rates for Mycobacteria from BACTEC 12B Vials, Middlebrook 7H11- Selective 7H11 Biplates, and Lowenstein-Jensen Slants in a Public Health Mycobacteriology Laboratory. J. Clin. Microbiol. 33:2516-2518
5. Tokars, J.L., Rudnick, J.R., Kroc, K., Manangan, L., Pugliese, G., Huebner, R.E., Chan, J., Jarvis, W. 1996. U.S. Hospital Mycobacteriology Laboratories: Status and Comparison with State Public Health Department Laboratories. J. Clin. Microbiol. 34: 680-685.