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LAC DPH Health Information

Use of Nucleic Acid Amplification Tests (NAATs) to Detect Active Tuberculosis

*This message is intended for primary care, urgent care, emergency medicine, internal medicine, pulmonary medicine, and infectious disease providers.
Please distribute as appropriate.*

Key messages

- All health care providers who evaluate patients for active tuberculosis (TB) disease should be aware of the availability of, indications for, and limitations of nucleic acid amplification tests (NAATs) to detect *M. tuberculosis*.
- The Los Angeles County Department of Public Health (LAC DPH) TB Control Program (TBCP) has just released updated [guidelines](#) on the use of *M. tuberculosis* NAATs, including the role of the NAAT Xpert MTB/RIF in making decisions about airborne infection isolation. Key points include:
 - All patients undergoing evaluation for pulmonary tuberculosis (TB) should have at least one NAAT on a respiratory specimen **in addition to** three AFB smears and AFB cultures.
 - Patients with active TB who have negative AFB smears are more likely to have false negative NAATs (including the Xpert MTB/RIF NAAT) than patients with positive AFB smears.
 - Clinicians **should not** diagnose TB or make decisions regarding airborne infection isolation on the basis of NAAT results alone (including the Xpert MTB/RIF assay).

Background

Nucleic acid amplification tests have significantly improved the detection of pulmonary TB because they are more sensitive and have a much faster turn-around time than traditional AFB smear microscopy. Local surveillance data from LAC TBCP, however, indicates that the sensitivity of TB NAATs may be significantly lower than initially thought raising the concern that diagnoses may be missed. In addition, the 2015 FDA clearance of the Xpert MTB/RIF for use in determining if patients with suspected tuberculosis (TB) can be removed from airborne infection isolation has been misinterpreted. At this time, Xpert MTB/RIF results alone **should not** be used to decide if airborne infection isolation should continue. The LAC TBCP has published "[Guidelines for the Use of *Mycobacterium tuberculosis* Nucleic Acid Amplification Tests, Including Xpert MTB/RIF](#)" to address these issues as well as to provide information on when to use NAATs, when a second NAAT should be ordered, how to collect specimens for NAATs, and how to interpret the results.

Summary of actions requested of providers during the initial evaluation of active pulmonary TB:

- ✓ Continue to collect three respiratory specimens for AFB smear and culture at eight hour intervals. Collect at least one of these specimens in the early morning.
- ✓ Order at least one NAAT.
- ✓ Consider the clinical picture, AFB smear, AFB culture (if available), and chest films in addition to the NAAT result when making decisions about diagnosis and airborne infection isolation.
- ✓ [Report](#) any positive NAAT, including Xpert MTB/RIF to TBCP within 1 working day.
- ✓ Consult TBCP with questions on test interpretation.
- ✓ Contact TBCP if Xpert MTB/RIF result shows rifampin resistance to arrange confirmatory DNA sequencing.
- ✓ Obtain [approval](#) from TBCP before discharging any patient with active TB.

Please visit the TB Control Program's [website](#) for TB guidelines and other TB-related resources. Health care providers who wish to consult TB Control Program, please call 213-745-0800.

LAC DPH TB resources referenced above

- **TB Control Program contact information** 213-745-0800
<http://publichealth.lacounty.gov/tb/index.htm>
- **Guidelines for the Use of *Mycobacterium tuberculosis* Nucleic Acid Amplification Tests, Including Xpert MTB/RIF**
<http://publichealth.lacounty.gov/tb/docs/NAATs/NAATGuidelines09-15-2015f.pdf>
- **Confidential Morbidity Report form for TB suspects and cases**
<http://publichealth.lacounty.gov/tb/forms/cmr.pdf>
- **Discharge and Transfer Guidelines for Tuberculosis Patients and Suspects**
<http://publichealth.lacounty.gov/tb/docs/discharge.pdf>

This message was sent by Dr. Alicia Chang, Medical Director, Tuberculosis Control Program, Los Angeles County Department of Public Health.

Please visit our [LAHAN webpage](#) to view this and other communications.