Therapeutic Drug Monitoring: The Role of the State Laboratory.

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TDM Basics:

- Measure of active metabolites of anti-TB drugs in patient’s blood at specific times after dosing.
- Poor clinical response or certain comorbidities may prompt TDM.
- Seek advice from TB Control regarding appropriateness.
TDM not performed by DHMH Laboratory!

- Performed at Charles Peloquin’s lab at the University of Florida.
- We can assist in the processing and shipping of specimens.
Special handling of TDM specimens:

- Many of the anti-TB drugs will continue to break down at room temp even after blood is collected.

- There are many Federal regulations regarding shipping potentially infectious materials which must be met.
Quick Links

- Lab Hours
- Holiday Schedule
- Influenza Webpage
- Zika Webpage
- About the Labs

Laboratory Guides

- Guide to Public Health Laboratory Services
- Guide to Environmental Laboratory Services

Laboratory Testing & Order Forms

- Infectious Agents Culture Detection
- Serological Testing
- Testing Supplies Order Form

Microbiology Labs:

- Microbiology Home
- Bioterrorism
- Clinical Microbiology
- Dairy Microbiology
- Enteric, Diarrheal & Foodborne Diseases
- Food/Shellfish Microbiology
- Gonorrhea (GC)
- Tuberculosis (TB)
- Water Microbiology

Mycobacteriology Menu:

- TB Lab Announcements
- TB/ Mycobacteriology FAQs
- Sputum Collection Instructions
- Therapeutic Drug Monitoring (TDM) Instructions

The main focus of our work in the Mycobacteriology Laboratory is to provide testing to aid in the diagnosis and control of TB in the State of Maryland. As a secondary goal, our lab also acts as a reference lab, assisting area hospital labs in the identification of a wide range of mycobacterial species.

Testing offered Monday through Friday includes:

§ Culture and Smear: We process a wide range of clinical specimens for AFB smear and culture. All smears are read by Fluorochrome staining with positives confirmed by Kinyoun. Culture is performed in both MGIT broth and Lowenstein-Jensen slants and held for seven (7) weeks incubation.
Scheduling patients.

- Schedule patients to have blood drawn for TDM on Tuesdays or Wednesdays.
- Bloods must be to State Lab by 3:30 PM on date collected!
- Call State Lab when issues with scheduling a patient arise.
Scheduling with Lab.

- Fill out the State Lab request form as completely as possible and fax to State Lab.
- Lab requests at least 5 working day notification of specimen submission!
Therapeutic Drug Monitoring – Maryland State Laboratory Assistance Request

Patient Name
Patient DOB
Submitting Health Department
Contact Person
Contact Phone Number
FAX Number

Drugs to be tested

Estimated Date of Collection
Estimated Time of Delivery

Please fax this form to the State laboratory at (443) 681-4506 at least 5 business days prior to submitting blood specimens.

For State laboratory Use Only

Date received
Comments
Collecting blood specimens.

- Must use “red top” collection tube (no anticoagulant).
- Recommended that one tube be collected per drug to be tested.
- Be sure to label tubes with time of collection if levels are being tested at multiple collection times.
University of Florida request form.

- Must be filled out completely and accompany blood specimens to the lab.
- Originating health department should be listed under the “results mailed to” and billing sections.
- A separate form must be used for each collection time, but up to 4 drugs can be listed per form.
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The number of hours after the dose to collect concentrations are shown in parentheses after each designation below. To test for delayed drug absorption, a second sample may be collected 4 hours after the "peak." trough concentrations (prior to each dose) are recommended for each AEV and anti-AEV drugs.

**Sample preparation and shipment:** Collect in plain red top, 5-10 ml tube. Allow the sample to clot and separate serum from cells by centrifugation and aliquot into a labeled polypropylene or similar plastic tube. Use a separate tube for each test ordered. Allow for expiration of sample tube date. Freeze at -20°C if possible. Otherwise, store at 4°C. Ship for overnight delivery on a 4°C, dry ice. HIP SAMPLES TO BE RECEIVED MONDAY THROUGH FRIDAY. DO NOT SHIP ON SATURDAY.

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<th><strong>Condition</strong> (circle one):</th>
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Other instructions are:
Transporting Specimens to State Lab.

- Should be expedited on ice to State Lab by private courier/health department employee.
- First collected blood can be held on ice until second blood collection if absolutely necessary.
- Call the TB Lab upon arrival and deliver specimens directly to lab employee.
Shipping to Florida.

- State Lab batches serums and ships to Florida about every 2 to 3 weeks.
- Shipment schedule released quarterly via memo and posted to TDM Instructions webpage.
- May be able to expedite shipment in emergency situations – staff allowing.
- Emergency or unusual TDM requests should first be addressed to TB Control.
Questions?