

2014 Updates:
Completing the New Bioterrorism Proficiency Testing Result Form and Changes to the Rule-out Algorithms
 An overview of program changes in 2014

Erin Bowles Laboratory Network Coordinator Communicable Disease WSLH Phone: 608-890-1616 erin.bowles@slh.wisc.edu	Amanda Weiss Program Coordinator Proficiency Testing WSLH Phone: 608-224-4310 amanda.weiss@slh.wisc.edu
---	---


2 WISCONSIN STATE LABORATORY OF HYGIENE - UNIVERSITY OF WISCONSIN

Objectives

- Describe the steps for logging into PT Central and entering BPE results online.
- Explain how to complete a paper result form, if needed.
- Identify where the revised ASM Sentinel Level Clinical Laboratory Guidelines for Suspected Agents of Bioterrorism and Emerging Infectious Diseases are located.

3 WISCONSIN STATE LABORATORY OF HYGIENE - UNIVERSITY OF WISCONSIN


2014 Bioterrorism Proficiency Exercise Background & Procedure Changes



4 WISCONSIN STATE LABORATORY OF HYGIENE - UNIVERSITY OF WISCONSIN

Sentinel Clinical Laboratory Role in the Laboratory Response Network (LRN)

- Work closely with local and state public health and federal laboratories to recognize potential agents of terrorism and other emerging threats to public health
- Strength of LRN is it's tiered capability construct
- Sentinel laboratories serve as the foundation
 - Recognize
 - Rule-out
 - Refer



5 WISCONSIN STATE LABORATORY OF HYGIENE - UNIVERSITY OF WISCONSIN

Definition: Sentinel Clinical Laboratory

- Laboratory is certified to perform high complexity testing by CLIA
- Laboratory in-house testing includes Gram stains and culture of at least one of the following:
 - Lower respiratory tract
 - Wound
 - Blood

http://www.asm.org/images/PSAB/Sentinel-Clinical-Laboratory-Definition_2013.pdf

6 WISCONSIN STATE LABORATORY OF HYGIENE - UNIVERSITY OF WISCONSIN

Purpose of the Bioterrorism Proficiency Exercise (BPE)

- Sentinel Clinical Laboratories are responsible for demonstrating annual competency in performing rule-out testing as outlined in the ASM "Sentinel Level Clinical Microbiology Laboratory Guidelines for Suspected Agents of Bioterrorism and Emerging Infectious Diseases"
- BPE is offered free of charge to WI clinical laboratories to meet the above requirement

7 WISCONSIN STATE LABORATORY OF HYGIENE - UNIVERSITY OF WISCONSIN

Results of September 2013 "Rule Out" Tests for Burkholderia

Test	Sample 1: (GNR) Expected Result	% Reporting Labs	Sample 2: (GNR) Expected Result	% Reporting Labs
α-hemolysis	Negative	88.3% (of 77)	Negative	85.7% (of 77)
β-hemolysis	Negative	89.4% (of 76)	Negative	86.7% (of 75)
Catalase *	Positive	34.2% (of 76)	Positive	50.6% (of 77)
Indole *	Negative	88.2% (of 76)	Negative	89.5% (of 76)
Motility *	Negative	35.1% (of 74) ¹	Positive	47.3% (of 73)
Oxidase *	Positive	90.8% (of 76)	Positive	93.4% (of 76)
Urease	Positive	21.9% (of 73)	Negative	49.3% (of 73)
X Requirement	Not indicated	91.5% (of 71)	Not indicated	93.1% (of 72)
V Requirement	Not indicated	91.5% (of 71)	Not indicated	93.1% (of 72)

* Rule-out tests for Burkholderia
¹ >50% didn't perform testing

8 WISCONSIN STATE LABORATORY OF HYGIENE - UNIVERSITY OF WISCONSIN

ASM Sentinel Level Clinic Laboratory Protocols Webpage

- CDC, APHL, and ASM have updated the LRN protocols which can be found at the following: <http://www.asm.org/index.php/guidelines/sentinel-guidelines>
 - NEW - Introduction, General Recommendations and Biochemical Test Procedures
 - Anthrax (*Bacillus anthracis*)
 - Brucella
 - Burkholderia
 - Plague (*Yersinia pestis*)
 - Tularemia (*Francisella tularensis*)

9 WISCONSIN STATE LABORATORY OF HYGIENE - UNIVERSITY OF WISCONSIN

Microbiology Technology Advancements

- **YES** - Few manual biochemicals are used by Sentinel Clinical Laboratories (SCL)
- **YES** – Automated ID systems are the go to method for organism identification for many SCL
- **YES** – Some SCL are using other methods to identify organisms (e.g.. Maldi-TOF, sequencing)
- **NO** – SCL should identify BT agents
- **YES** – SCL should rule-out BT agents
 - Perform only on human clinical specimens

10 WISCONSIN STATE LABORATORY OF HYGIENE - UNIVERSITY OF WISCONSIN

Changes to Protocols

- Biosafety Levels changed to match "Biosafety in Microbiological and Biomedical Laboratories" (BMBL) and some changes to rule-out biochemicals.
 - *B. anthracis* - BSL-2 unless working with high concentrations.
 - *Brucella* spp. - BSL-3 (or BSL-2 with BSL-3 precautions)
 - *B. mallei* and *pseudomallei* - BSL-2 for specimen processing but BSL-3 (or BSL-2 with BSL-3 precautions) for follow-up culture work & testing. Added susceptibility to amoxicillin-clavulanic acid and penicillin. Changed no pigment to no violet pigment.
 - *F. tularensis* - BSL-3 (or BSL-2 with BSL-3 precautions). Removed urease from rule-out test algorithm.
 - *Y. Pestis* – BSL-2. Removed description of colonies as "fried egg" or "hammered copper" appearance. Growth slower at 37° than 25°.

11 WISCONSIN STATE LABORATORY OF HYGIENE - UNIVERSITY OF WISCONSIN

Revised Materials

- Funding cuts to emergency response
- Development of shared training and resources
 - Bioterrorism Agents poster
 - Bench Guides for Bioterrorism Agents
 - CDC TRAIN at <http://cdc.train.org>
 - On-line packaging and shipping refresher training
 - Basic Microscopy
 - Free packaging and shipping workshops for employees with no previous training

12 WISCONSIN STATE LABORATORY OF HYGIENE - UNIVERSITY OF WISCONSIN

Changes to BPE

- Emphasis is on performing rule-out testing
- No final identification is asked for
 - Using an automated ID system or Maldi-TOF is not advised
- Exercise is no longer designed to provide two organisms to practice the rule-out algorithm for a single bioterrorism agent (BT).
- Each unknown sample may require laboratories to perform the rule-out algorithms for a different possible BT agent
- Gram stain is only performed on isolate growth not primary inoculum.

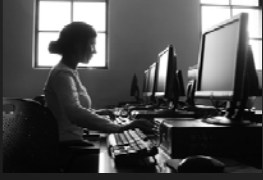
13 WISCONSIN STATE LABORATORY OF HYGIENE - UNIVERSITY OF WISCONSIN

BPE Tips for Success

- Treat as a potential BT agent, perform all work in a BSC
- Subculture to Bld, Choc, MAC
- Subculture isolate to Bld, Choc, MAC
- Perform "rule-out" testing from 2nd subculture
- Use Gram stain and growth characteristics to guide choice of rule-out algorithm to perform
- Perform "Rule-out" testing - dependent on manual biochemicals available in your lab
- Report what you were and weren't able to rule out and who you would notify
- Report if you would refer for further testing and where you would refer

14 WISCONSIN STATE LABORATORY OF HYGIENE - UNIVERSITY OF WISCONSIN

2014 Bioterrorism Proficiency Exercise Reporting Changes



15 WISCONSIN STATE LABORATORY OF HYGIENE - UNIVERSITY OF WISCONSIN

Changes in 2014

ADDED

Online result entry

Worksheet

New Urease choices

Primary Gram stain

Final identification


Paper result form

REMOVED

16 WISCONSIN STATE LABORATORY OF HYGIENE - UNIVERSITY OF WISCONSIN

Entering Results Online

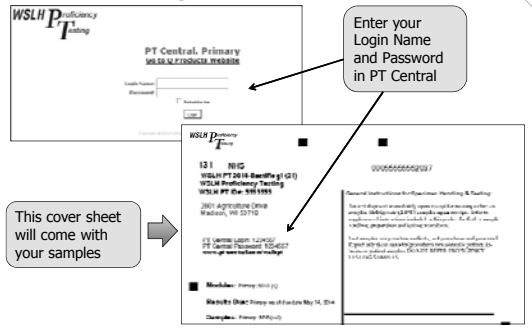
Go to the WSLH PT website:
www.WSLHPT.org



Log on to PT Central by clicking on **CLINICAL Customer Login**

17 WISCONSIN STATE LABORATORY OF HYGIENE - UNIVERSITY OF WISCONSIN

Entering Results Online



Enter your Login Name and Password in PT Central

This cover sheet will come with your samples

18 WISCONSIN STATE LABORATORY OF HYGIENE - UNIVERSITY OF WISCONSIN

Entering Results Online

After logging in, you will see your HOME page

19 WISCONSIN STATE LABORATORY OF HYGIENE - UNIVERSITY OF WISCONSIN

Entering Results Online

20 WISCONSIN STATE LABORATORY OF HYGIENE - UNIVERSITY OF WISCONSIN

Entering Results Online

For EACH Analyte:

Select a result from each drop down menu **OR** Select an Exception code (click yellow E)

21 WISCONSIN STATE LABORATORY OF HYGIENE - UNIVERSITY OF WISCONSIN

Entering Results Online

If a result cannot be provided:
You MUST choose either Test not indicated or Test not performed

22 WISCONSIN STATE LABORATORY OF HYGIENE - UNIVERSITY OF WISCONSIN

Entering Results Online

Add Comments to supplement responses

Comments are especially helpful to:

- Specify temperatures being used
- Indicate reference labs to which a patient sample would be sent

23 WISCONSIN STATE LABORATORY OF HYGIENE - UNIVERSITY OF WISCONSIN

Entering Results Online

New reporting option for Urea test:

For positive Urease tests

- "Rapid positive" if positive at ≤2 hrs
- "Positive" if positive at >2 hrs

24 WISCONSIN STATE LABORATORY OF HYGIENE - UNIVERSITY OF WISCONSIN

Entering Results Online

SAVE your results!

TEMPORARY SAVE:
Data is submitted and can be edited until the due date

FINAL SAVE:
Data is submitted and cannot be edited

25 WISCONSIN STATE LABORATORY OF HYGIENE - UNIVERSITY OF WISCONSIN

Building a Data Submission Report

After results have been entered and SAVED, build a Data Submission Report for your records

Click on **REPORTS** in the upper left hand side of the PT Central screen

26 WISCONSIN STATE LABORATORY OF HYGIENE - UNIVERSITY OF WISCONSIN

Building a Data Submission Report

1. Choose the Year and Event (BioterrorismPrep1)

2. Click APPLY

3. Click BUILD

27 WISCONSIN STATE LABORATORY OF HYGIENE - UNIVERSITY OF WISCONSIN

Questions?

- See our contact information on the second slide
- Call proficiency testing at 800-462-5261

28 WISCONSIN STATE LABORATORY OF HYGIENE - UNIVERSITY OF WISCONSIN