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Idaho Bureau of Laboratories
Clinical Forum
Volume 8, Issue 1
Spring 2015

Packaging and Shipping Suspected Ebola Drill
Wendy Loumeau and Robert Voermans

The Idaho Bureau of Laboratories (IBL) has been working with public health and clinical partners to prepare for the possibility of testing a person with suspected Ebola Virus Disease (EVD) arriving in Idaho. One of the primary barriers to effective diagnosis of EVD is the ability to ship Division 6.2 Category A Infectious Substances to authorized LRN laboratories and the Centers for Disease Control and Prevention (CDC) for testing.

In early December, IBL and an Idaho hospital laboratory conducted a drill to test the packaging, shipping, receipt, processing, and analysis phases of suspected EVD samples. The hospital laboratory was responsible for packaging and shipping a Category A sample (e.g., Shigella spp. culture) priority overnight to IBL via FedEx, notifying IBL when the package had been shipped, providing the FedEx tracking number, and giving IBL detailed feedback regarding their packaging and shipping experiences. The IBL responsibilities included proper receipt and assessment of the packaging and replacement of the Category A culture with a simulated EVD sample for analysis using appropriate biosafety measures.

Following CDC recommendations, the hospital laboratory planned to package and ship the sample on ice packs but found that only Category A ambient shippers were available. Efforts were made to construct a Category A compliant insulated shipper. It took

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Packaging and Shipping Drill

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approximately 10 minutes to package the sample and an additional hour to label the box and complete the required paperwork. Unfortunately, FedEx rejected the package for shipping because the labeling did not meet current requirements. The hospital laboratory later consulted with IBL and the next day was able to successfully package and send a sample under ambient conditions using approved Category A materials they had on hand.

Unfortunately, the hospital laboratory failed to notify IBL that the package had been shipped, and, consequently, the sample arrived unannounced at IBL the following day. By not having the FedEx tracking number, IBL was unable to track the shipping progress of this sample for an expected arrival time; this prevented IBL staff from the opportunity to prepare ahead of time for receiving and processing the sample. Regardless, testing personnel were able to provide test results on this simulated EVD sample in less than four hours; this turn-around time reflects a single patient specimen with no issues encountered during sample processing and testing phases.

As a result of this drill, the hospital laboratory has created a Category A shipping area where all materials are stored and available. This will expedite the labeling process, which was the most time-consuming component for the staff. In addition, they have identified that updated shipping labels are needed and that it would be beneficial to obtain insulated

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WHAT’S THE PROBLEM?

There are at least five issues identified with this package.

Answers are on page 6.

Common BT Shipping Errors

Most common errors could be prevented by contacting IBL prior to sending BT samples.

- Inadequate or no prior notification to IBL 27%
- Did not include Attn: LRN-B Laboratory 27%
- Unsealed primary receptacle 19%
- Absorbent sheet not included 12%
- Incorrect quantity 8%
- Sent on agar plate 8%

Figure 2. IBL completes a packaging and shipping evaluation for all biological threat (BT) samples. Evaluations for other sample types are completed by request.

Packaging and Shipping Drill 

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Category A shippers in addition to ambient ones. In a real incident, the hospital laboratory could contact their local public health department for assistance in obtaining appropriate shipping materials if needed. IBL plans to create Idaho-specific shipping guidelines for the laboratories to aid in the packaging and shipping process.

IBL appreciates the opportunity to test EVD response and work with the participating Idaho hospital laboratory on this drill. Any other hospital laboratories interested in testing their packaging and shipping response may contact Michael Stevenson at IBL via stevensm@dhw.idaho.gov or 208-334-2235 to schedule a similar drill.

Contact Michael Stevenson at stevensm@dhw.idaho.gov to test your lab’s packaging and shipping response.
Measles Detection Tests at IBL

Vonnita Barton

In light of the 2015 nationwide measles outbreak, Idaho Bureau of Laboratories (IBL) has received increased samples for measles testing. Our clinical partners statewide have inquired about IBL’s measles testing services for RT-PCR and IgM serology. See Figure 1 for an overview of each test.

<table>
<thead>
<tr>
<th></th>
<th>RT-PCR</th>
<th>IgM serology</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>How it works</strong></td>
<td>Detects RNA in clinical sample</td>
<td>Detects antibodies within first few days of rash onset</td>
</tr>
<tr>
<td><strong>Type of detection</strong></td>
<td>Confirmation</td>
<td>Presumptive</td>
</tr>
<tr>
<td><strong>Sample type</strong></td>
<td>Swabs in 1-3 ml viral transport medium:</td>
<td>Serum in tubes without additives (plain, red-top, serum separator)—0.5-1 ml preferred volume</td>
</tr>
<tr>
<td></td>
<td>• Oropharyngeal (throat)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Nasal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Nasopharyngeal (NP)</td>
<td></td>
</tr>
<tr>
<td><strong>Time to collect samples</strong></td>
<td>As soon after rash as possible</td>
<td>As soon after rash as possible</td>
</tr>
<tr>
<td></td>
<td>Most successful within first 3 days of rash onset; may be successful 10-14 post rash onset</td>
<td>Most successful within first few days of rash onset</td>
</tr>
<tr>
<td><strong>Cost</strong></td>
<td>No fee if during outbreak or epidemiologic investigation</td>
<td>No fee if during outbreak or epidemiologic investigation</td>
</tr>
<tr>
<td></td>
<td>$62.00 for routine screening</td>
<td>$37.00 for routine screening</td>
</tr>
<tr>
<td><strong>Turnaround time (TAT)</strong></td>
<td>2 business days</td>
<td>2 business days if reagents available</td>
</tr>
<tr>
<td></td>
<td>NA if reagents not available</td>
<td></td>
</tr>
<tr>
<td><strong>Prior notification requested</strong></td>
<td>Yes, call 208-334-0530</td>
<td>Yes, call 208-334-0530</td>
</tr>
</tbody>
</table>

Figure 1. IBL performs RT-PCR and IgM serology testing for measles detection.

*The Idaho Division of Public Health provides a wide range of services, including providing support for the Public Health Districts as they investigate cases of disease by coordinating statewide outbreak investigations, providing specialized public health laboratory testing, supplying vaccines for children, and regulating food safety. During times of outbreak investigation, there is no fee associated with surveillance testing. Fees for routine screening that does not occur during an outbreak investigation or is not an epidemiologic request can be found on the IBL website at www.statelab.idaho.gov (Figure 2).
NAME THAT AGENT

If you’re not sure what this agent may be, consider attending one of our Sentinel Laboratory Preparedness Workshops this spring:

- April 27, 2015—Boise
- April 28, 2015—Boise
- April 30, 2015—Pocatello


To be added or removed from the Clinical Forum email list:
statelab@dhw.idaho.gov

In partnership with the National Laboratory Training Network, IBL is offering two Packaging and Shipping Division 6.2 training courses: May 18th in Lewiston and May 21st in Boise.

Register FREE at www.aphl.org/courses/Pages/017-15.aspx.
Lisa Lam, Microbiologist

Lisa Lam joined IBL in February 2015 when she accepted the position of Microbiologist. Lisa was born and raised in Boise, Idaho and attended Boise State University where she earned her Bachelor’s degree in Environmental Biology with a minor in Environmental Science. While there, she worked in Dr. Jennifer Forbey’s research lab looking at the various chemical properties of sagebrush and their influence on obligate herbivores. After graduating, Lisa worked for the US Geological Survey as a field technician collecting Sage-grouse feathers for genetic analysis and then for IBL as a water quality sampling technician. In the year before coming to IBL in her current position, she worked for the Idaho Department of Fish and Game in their Fish Genetics Laboratory doing DNA extraction on fish tissue.

Lisa enjoys spending time outdoors hiking, camping, and fishing. In her spare time, she also enjoys cooking and reading.

Upcoming Webinar

June 9, 2015; 11:00 am Mountain Time
“Lab Confirmation of Measles in Highly Vaccinated Populations”

Contact Wendy Loumeau at loumeauw@dhw.idaho.gov to access archived programs.

THE PROBLEM

1. Damaged box
2. Stained box
3. Old Class 6 label used
4. Quantity should be actual volume, not container type
5. Shiga toxin should be “Suspected Category A Infectious Substance” (lost in the crowd concept)