



# **Microbiology Client Services Manual 2013**

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## General Information and Services

The Bureau of Public Health Laboratory, Ohio Department of Health (ODHL), assists local public health jurisdictions, clinics, hospitals and other state agencies in the diagnosis of diseases and surveillance activities. The laboratory is staffed by highly qualified and trained microbiologists, who have bachelor, masters and Ph.D. degrees. All procedures are regularly evaluated for accuracy, precision, turnaround time, cost effectiveness and applicability to public health. The ODHL participates in appropriate proficiency testing programs as mandated by CLIA '88.

The role of ODHL can be summarized below:

### Environmental Surveillance

- Tests animals for presence of rabies virus
- Tests environmental specimens for agents of bioterrorism

### Epidemiological Support

- Provides microbiological analysis of clinical specimens in support of epidemiologic investigations
- Provides bacteriological food testing in the event of a food-borne outbreak

### Disease Diagnosis

- Assists hospitals, local public local public health jurisdictions, physicians, and clinics in disease diagnosis
- Serves as a microbiological reference laboratory for the State of Ohio

This manual serves as a quick reference guide on the scope of microbiological laboratory testing available, criteria for the proper collection and transport of specimens, specimen collection kits provided by ODHL, and contact information for the various specialty areas.

Assistance is available for submission of isolates or clinical specimens to Centers for Disease Control and Prevention (CDC) for public health related testing not available at ODHL. Please contact ODHL Microbiology Customer Service for more information.

Assistance may be available for the diagnosis of parasitic infections using high resolution digital images. Images will be forwarded to the CDC DPDx for identification. Requests for additional testing for infectious disease agents may be provided by the CDC through the ODHL. Please contact the ODHL Microbiology Customer Service for more information.

### Contact Information:

ODHL Microbiology Customer Service	888/ODH-LABS
Laboratory Manager	614/466-5600
Laboratory Director	614/644-4596
Bureau Chief	614/644-4632
ODH Outbreak Response and Bioterrorism Investigation Team	614/995-5599
ODH Zoonotic Disease Program	888/722-4371
ODH 24/7 Public Health Response	614/722-7221

## **General Guidelines for Collection, Handling and Shipment of Specimens**

The ODHL provides various kits/ mailing containers to local public health jurisdictions, clinics, hospitals and private physicians throughout Ohio. These kits/containers are the property of ODHL and should not be used for purposes other than shipping specimens to ODHL. To arrange for the receipt of a collection kit, contact ODHL Microbiology Customer Service.

### General Guidelines for Collection and Shipment:

- Follow the directions for specimen collections found in the individual specimen kits.
- Instruct the patient (or family member) collecting the specimen on the proper method to utilize the kits.
- Collect the specimen before starting antimicrobial therapy to avoid the possibility of false-negative results.
- Collect the specimen from the clinically affected area and as early as possible during the acute phase of the disease.
- Clearly print the patient's name or unique identifier corresponding with the submission form and date of collection on the specimen container.
- Enclose the appropriate specimen/sample submission form with each labeled specimen (See appendices).
- Ensure that the specimen is contained in a leak-proof container.
- Place the submission form between the secondary and outer container. Do not attach the sample to the submission or wrap the submission form around the sample.
- Follow instructions for temperature control. See individual test profiles for further instructions. If the specimen must be refrigerated or frozen, package in an insulated container. DO NOT USE WET ICE, instead use cold packs.
- Mail or ship specimens as early as possible in the week to avoid weekend or holiday delays.

A listing of kits, kit contents, submission forms, and special instructions that may apply to any particular kit can be found in [Appendix B](#).

NOTE: Diagnostic and infectious substances are considered dangerous goods. When transported by air, the International Air Transport Association (IATA) Dangerous Goods Regulations apply. IATA regulations require that persons responsible for shipping diagnostic specimens and infectious substances by air be trained and certified.

## Botulinum Neurotoxin-Producing *Clostridium* Species

Use of Test:	Detection of botulinum neurotoxin producing clostridial species and/or its toxin in clinical, food, or environmental samples
Test Includes:	Mouse bioassay; Polymerase Chain Reaction (PCR); Enzyme Immunoassay (EIA); Culture
Availability:	Test is available to all clinical laboratories and local public health jurisdictions  Prior consultation with ODH Outbreak Response and Bioterrorism Investigation Team (ORBIT) through the appropriate local health jurisdiction is required
Limitations:	Serum is generally not useful in the diagnosis of infant botulism. A series of 2 stools is usually sufficient for confirming or ruling out infant botulism. Botulinum neurotoxin can degrade easily due to improper handling.
Fees:	Public health investigation testing - Exempt Non-public health investigation testing - Fee Due
Causes for Rejection:	Inappropriate specimen transport container; Unlabeled or mislabeled specimen; Inappropriate transport conditions; Incomplete or missing specimen submission form; Sample leakage during transport; Inappropriate sample for test ordered; Sample outdated, exceeds appropriate time from collection to receipt; Quantity not sufficient to perform test; Improperly preserved sample.
Turnaround Time:	9 days (negative); 17 days (positive)
Forms Required:	Microbiology submission form HEA 2530 ( <a href="#">Appendix A</a> )
Sample Requirements:	Refer to <a href="#">Appendix C</a> for collection and handling instructions
Shipping Requirements:	Refer to <a href="#">Appendix C</a> for shipping instructions. Ship overnight using Biological Substance, Category B classification and an insulated box with cold packs. Ship isolates using Infectious Substance, Category A classification.
Other:	Botulinum neurotoxin producing <i>Clostridium</i> species and botulinum neurotoxin are regulated as select agents by federal law. Refer to <a href="http://www.selectagents.gov/">http://www.selectagents.gov/</a> for information on the requirements for storage, reporting and transfer of select agents and toxins.

## ***Chlamydia trachomatis and Neisseria gonorrhoeae***

Use of Test:	Detection of <i>Chlamydia trachomatis</i> and <i>Neisseria gonorrhoeae</i> DNA
Test Includes:	Nucleic acid amplification (Strand Displacement Amplification)
Availability:	Only pre-approved sites may submit specimens for testing
Limitations:	This assay may not be used to assess therapeutic success or failure since nucleic acids may persist following antimicrobial therapy
Fees:	Public health investigation testing - Exempt
Causes for Rejection:	Inappropriate specimen transport container; Unlabeled or mislabeled specimen; Inappropriate transport conditions; Incomplete or missing specimen submission form; Sample leakage during transport; Inappropriate sample for test ordered; Sample outdated, exceeds appropriate time from collection to receipt; Quantity not sufficient to perform test; Improperly preserved sample.
Turnaround Time:	2 days
Forms Required:	Microbiology submission form HEA 2552 ( <a href="#">Appendix D</a> )
Sample Requirements:	Endocervical or urethral swab: place in a swab diluent tube; Vaginal swab: express swab in diluent tube; Urine: verify the patient has not urinated for at least 1 hour prior to collection and then collect the first 20-60 ml of the voided urine (not midstream) in a urine collection cup, mix and transfer 2-3 ml to the fill indicator window on a urine preservative transport (UPT) tube
Shipping Requirements:	Ship within 10 days at ambient temperature using Biological Substance, Category B classification

## ***Cryptosporidium* Species**

Use of Test:	Diagnosis of gastrointestinal disease due to <i>Cryptosporidium</i> species in support of epidemiological investigations
Test Includes:	Microscopy; Direct Fluorescent Antibody (DFA)
Availability:	Test is available to all clinical laboratories and local public health jurisdictions  Prior consultation with ODH Outbreak Response and Bioterrorism Investigation Team (ORBIT) through the appropriate local health jurisdiction is required
Limitations:	Three samples collected 1 day apart and preserved in 10% formalin are sufficient for reliable diagnosis
Fees:	Public health investigation testing - Exempt
Causes for Rejection:	Inappropriate specimen transport container; Unlabeled or mislabeled specimen; Inappropriate transport conditions; Incomplete or missing specimen submission form; Sample leakage during transport; Inappropriate sample for test ordered; Sample outdated, exceeds appropriate time from collection to receipt; Quantity not sufficient to perform test; Improperly preserved sample.
Turnaround Time:	2 days
Forms Required:	Microbiology submission form HEA 2530 ( <a href="#">Appendix A</a> )
Sample Requirements:	Stool must be added until the formalin level reaches the line indicated on the collection vial. The vial must be firmly capped and the vial shaken vigorously to ensure proper sample preservation.  A single vial collection kit (10% buffered formalin); contact ODHL Customer Service to obtain collection kits
Shipping Requirements:	Ship at ambient temperature using Biological Substance, Category B classification

## Enteric Bacterial Pathogens (Referred Isolate)

Use of Test:	Identification and serotyping of enteric pathogens for epidemiological investigations
Test Includes:	Biochemical and serological identification of Shiga-like toxin producing <i>Escherichia coli</i> and <i>Salmonella</i> , and <i>Shigella</i> spp.; biochemical identification of <i>Campylobacter</i> spp., <i>Vibrio</i> spp. and <i>Yersinia enterocolitica</i>
Availability:	Test is available to all clinical laboratories and local public health jurisdictions
Limitations:	<i>Campylobacter</i> spp. are identified to genus level and reported as a presumptive identification. Isolates identified as <i>Vibrio cholera</i> are sent to the CDC for serogrouping and determination of toxin-producing ability.
Fees:	Public health investigation testing - Exempt
Causes for Rejection:	Inappropriate specimen transport container; Unlabeled or mislabeled specimen; Inappropriate transport conditions; Incomplete or missing specimen submission form; Sample leakage during transport; Inappropriate sample for test ordered; Sample outdated, exceeds appropriate time from collection to receipt; Quantity not sufficient to perform test; Improperly preserved sample.
Turnaround Time:	5 days
Forms Required:	Microbiology submission form HEA 2530 ( <a href="#">Appendix A</a> )
Sample Requirements:	Pure subculture of organism on agar slant to support organism growth
Shipping Requirements:	Ship at ambient temperature using Biological Substance, Category B classification

## Enteric Bacterial Pathogens (Fecal Material)

Use of Test:	Detection of bacterial pathogens in fecal material for epidemiological investigations
Test Includes:	Culture for Shiga-like toxin-producing <i>Escherichia coli</i> , <i>Salmonella</i> , and <i>Shigella</i> spp.; Lateral flow enzyme immunoassay
Availability:	Test is available to local public health jurisdictions  Prior consultation with ODH Outbreak Response and Bioterrorism Investigation Team (ORBIT) through the appropriate local health jurisdiction is required  For related testing options, see section for " <a href="#">Norovirus</a> "
Limitations:	Routine detection of the following organisms is not performed unless specifically requested: <i>Campylobacter</i> spp., <i>Vibrio</i> spp., and <i>Yersinia enterocolitica</i> . Isolation of <i>Staphylococcus aureus</i> , <i>Listeria monocytogenes</i> and <i>Bacillus cereus</i> from fecal samples is not available through the ODHL.
Fees:	Public health investigation testing - Exempt
Causes for Rejection:	Inappropriate specimen transport container; Unlabeled or mislabeled specimen; Inappropriate transport conditions; Incomplete or missing specimen submission form; Sample leakage during transport; Inappropriate sample for test ordered; Sample outdated, exceeds appropriate time from collection to receipt; Quantity not sufficient to perform test; Improperly preserved sample.
Turnaround Time:	5 days (negative); 8 days (positive)
Forms Required:	Microbiology Submission Form HEA 2530 ( <a href="#">Appendix A</a> )
Sample Requirements:	Refer to <a href="#">Appendix E (Versión en Español)</a> for collection and handling instructions Contact ODHL Customer Service to obtain collection kit
Shipping Requirements:	Ship overnight using Biological Substance, Category B classification and an insulated box with cold packs. DO NOT FREEZE.

## Foodstuff Testing

Use of Test:	Detection of food-borne bacterial pathogens and/or their toxins in foods for epidemiological investigations
Test Includes:	Culture for <i>Bacillus cereus</i> , <i>Campylobacter</i> spp., <i>Clostridium perfringens</i> , Shiga-toxin producing <i>Escherichia coli</i> , <i>Listeria monocytogenes</i> , <i>Salmonella</i> , <i>Shigella</i> spp., <i>Staphylococcus aureus</i> , <i>Vibrio</i> spp., and <i>Yersinia enterocolitica</i> ; enzyme immunoassay for <i>Bacillus cereus</i> and <i>Staphylococcus aureus</i> enterotoxin; fecal coliform count
Availability:	Test is available to all local public health jurisdictions  Prior consultation with ODH Outbreak Response and Bioterrorism Investigation Team (ORBIT) through the appropriate local health jurisdiction is required  Only those samples epidemiologically linked to an outbreak will be tested; epidemiology will guide testing for specific agents.
Limitations:	Sufficient sample amount must be submitted
Fees:	Public health investigation testing - Exempt
Causes for Rejection:	Inappropriate specimen transport container; Unlabeled or mislabeled specimen; Inappropriate transport conditions; Incomplete or missing specimen submission form; Sample leakage during transport; Inappropriate sample for test ordered; Sample outdated, exceeds appropriate time from collection to receipt; Quantity not sufficient to perform test; Improperly preserved sample.
Turnaround Time:	6 days (negative); 10 days (positive)
Forms Required:	Food Sample Submission Form ( <a href="#">Appendix F</a> )
Sample Requirements:	Refer to <a href="#">Appendix G</a> for collection and handling instructions; Optimum - 100 grams of suspect food
Shipping Requirements:	Refer to <a href="#">Appendix G</a> for shipping instructions

## HIV-1 (Oral Fluid Screen)

Use of Test:	Detection of HIV-1 antibodies in oral fluid specimens
Test Includes:	Enzyme immunoassay (EIA)
Availability:	Only pre-approved sites may submit specimens for testing  For related testing options, see section “ <a href="#">HIV-1</a> (Oral Fluid Confirmation)”
Limitations:	Does not determine presence of HIV virus or the clinical diagnosis of AIDS. Test may be non-reactive for several weeks following exposure  Repeatedly reactive EIA results are confirmed by the HIV-1 Western Blot assay
Fees:	Public health investigation testing - Exempt
Causes for Rejection:	Inappropriate specimen transport container; Unlabeled or mislabeled specimen; Inappropriate transport conditions; Incomplete or missing specimen submission form; Sample leakage during transport; Inappropriate sample for test ordered; Sample outdated, exceeds appropriate time from collection to receipt; Quantity not sufficient to perform test; Improperly preserved sample
Turnaround Time:	2 days
Forms Required:	HIV Sample Submission Form ( <a href="#">Appendix H</a> )
Sample Requirements:	Minimum 0.75 ml of oral fluid  Oral fluid must be obtained using the OraSure collection device
Shipping Requirements:	Ship at ambient temperature using Biological Substance, Category B classification.

## HIV-1 (Oral Fluid Confirmation)

Use of Test:	Confirmatory test for repeatedly reactive enzyme immunoassay test results or rapid test reactive specimens for HIV-1
Test Includes:	Western Blot assay. Rapid test reactive specimens will be confirmed by Western Blot regardless of Enzyme Immunoassay test result.
Availability:	Only pre-approved sites may submit specimens for testing.
Limitations:	Persons with an indeterminate immunoblot should be retested using a fresh specimen in 1 to 3 months  Does not detect the presence of HIV-2; Specimens from patients with a history that indicates possible exposure to HIV-2 will be forwarded to CDC for further testing upon request of the clinician.
Fees:	Public health investigation testing - Exempt
Causes for Rejection:	Inappropriate specimen transport container; Unlabeled or mislabeled specimen; Inappropriate transport conditions; Incomplete or missing specimen submission form; Sample leakage during transport; Inappropriate sample for test ordered; Sample outdated, exceeds appropriate time from collection to receipt; Quantity not sufficient to perform test; Improperly preserved sample.
Turnaround Time:	4 days
Forms Required:	HIV Sample Submission Form ( <a href="#">Appendix H</a> )
Sample Requirements:	Minimum 0.75 ml of oral fluid  Oral fluid must be obtained using the OraSure collection device
Shipping Requirements:	Ship at ambient temperature using Biological Substance, Category B classification

## HIV-1 (Serum Screen)

Use of Test:	Detection of HIV-1 antibodies
Test Includes:	Enzyme immunoassay (EIA)
Availability:	Only pre-approved sites may submit specimens for testing  For related testing options, see section “ <a href="#">HIV-1 (Serum Confirmation)</a> ”
Limitations:	Does not determine presence of HIV or the clinical diagnosis of AIDS. Test may be non-reactive for several weeks following exposure.  Repeatedly reactive EIA results are confirmed by the HIV-1 Western Blot assay before reporting.  Specimen must arrive at the laboratory within 7 days of collection
Fees:	Public health investigation testing - Exempt
Causes for Rejection:	Inappropriate specimen transport container; Unlabeled or mislabeled specimen; Inappropriate transport conditions; Incomplete or missing specimen submission form; Sample leakage during transport; Inappropriate sample for test ordered; Sample outdated, exceeds appropriate time from collection to receipt; Quantity not sufficient to perform test; Improperly preserved sample
Turnaround Time:	2 days
Forms Required:	HIV Sample Submission Form ( <a href="#">Appendix H</a> )
Sample Requirements:	Minimum of 0.5 ml of serum or plasma  Plastic tube or vacutainer
Shipping Requirements:	Ship overnight at ambient temperatures (otherwise use refrigerated temperatures for storage and shipping) using Biological Substance, Category B classification

## **HIV-1 (Serum Confirmation)**

Use of Test:	Confirmatory test for repeatedly reactive enzyme immunoassay test results or rapid test reactive specimens for HIV-1
Test Includes:	Western blot assay
Availability:	Only pre-approved sites may submit specimens for testing  For related testing options, see section “ <a href="#">HIV-1 (Serum Screen)</a> ”
Limitations:	Persons with an indeterminate immunoblot should be retested using a fresh specimen in 1 to 3 months  Does not detect the presence of HIV-2. The specimens of patients with a history that indicates possible exposure to HIV-2 will be forwarded to CDC for further testing upon request of the clinician.  Specimen must arrive at the laboratory within 7 days of collection.
Fees:	Public health investigation testing - Exempt
Causes for Rejection:	Inappropriate specimen transport container; Unlabeled or mislabeled specimen; Inappropriate transport conditions; Incomplete or missing specimen submission form; Sample leakage during transport; Inappropriate sample for test ordered; Sample outdated, exceeds appropriate time from collection to receipt; Quantity not sufficient to perform test; Improperly preserved sample
Turnaround Time:	4 days
Forms Required:	HIV Sample Submission Form ( <a href="#">Appendix H</a> )
Sample Requirements:	Minimum of 0.5 ml of serum or plasma  Plastic tube or vacutainer
Shipping Requirements:	Ship overnight at ambient temperatures (otherwise use refrigerated temperatures for storage and shipping) using Biological Substance, Category B classification

## ***Mycobacterium* Species (Clinical Material)**

Use of Test:	Culture for mycobacteria in clinical specimens with subsequent identification of isolates
Test Includes:	Acid fast stain, DNA probe; high performance liquid chromatography (HPLC)
Availability:	Test is available to all clinical laboratories and local public health jurisdictions. Overnight courier service is available for public health entities.
Limitations:	Do not pool specimens. Pooling specimens increases the likelihood of contamination.  Acceptable clinical specimens include sputum, bronchial or tracheal aspirate, blood, skin or tissue biopsy, cerebrospinal fluid (CSF), bone marrow, body fluids and urine. Gastric aspirates are acceptable but must be neutralized immediately after collection prior to submission. Swabs are not recommended and should not be submitted; collect an aspirate using sterile saline.
Fees:	Public health investigation testing - Exempt Non-public health investigation testing - Fee Due
Causes for Rejection:	Inappropriate specimen transport container; Unlabeled or mislabeled specimen; Inappropriate transport conditions; Incomplete or missing specimen submission form; Sample leakage during transport; Inappropriate sample for test ordered; Sample outdated, exceeds appropriate time from collection to receipt; Quantity not sufficient to perform test; Improperly preserved sample
Turnaround Time:	1 day (AFB smear), 21 days (culture ID)
Forms Required:	Microbiology submission form HEA 2530 ( <a href="#">Appendix A</a> )
Sample Requirements:	Refer to <a href="#">Appendix I</a> for collection and handling instructions  Contact ODHL Customer Service to obtain collection kits
Shipping Requirements:	Ship overnight using Biological Substance, Category B classification and an insulated box with cold packs

## ***Mycobacterium* Species (Referred Isolate)**

Use of Test:	Identification of acid-fast bacilli
Test Includes:	Acid-fast stain; DNA probe; high performance liquid chromatography (HPLC)
Availability:	Test is available to all clinical laboratories and public health jurisdictions
Limitations:	<p>Do not submit a mixed culture. Should a mixed culture arrive, the submitter will be notified and requested to resubmit a pure isolate of the organism of interest.</p> <p>Problematic isolates are submitted to CDC for identification.</p>
Fees:	<p>Public health investigation testing - Exempt</p> <p>Non-public health investigation testing - Fee Due</p>
Causes for Rejection:	<p>Inappropriate specimen transport container; Unlabeled or mislabeled specimen; Inappropriate transport conditions; Incomplete or missing specimen submission form; Sample leakage during transport; Inappropriate sample for test ordered; Sample outdated, exceeds appropriate time from collection to receipt; Quantity not sufficient to perform test; Improperly preserved sample.</p>
Turnaround Time:	7 days
Forms Required:	Microbiology submission form HEA 2530 ( <a href="#">Appendix A</a> )
Sample Requirements:	Pure subculture of organism on agar slant or liquid medium to support organism growth (tubed media preferred). Specimens should not be submitted on plates.
Shipping Requirements:	Ship at ambient temperature using Infectious Substance, Category A classification for suspect <i>M. tuberculosis</i> isolates. Ship all others using Biological Substance, Category B classification.

## ***Mycobacterium tuberculosis* Direct Detection**

Use of Test:	Detection of <i>Mycobacterium tuberculosis</i> rRNA in sediments prepared from sputum, bronchial specimens, or tracheal aspirates
Test Includes:	Nucleic acid amplification (Transcription Mediated Amplification)
Availability:	Test is available to all clinical laboratories and local public health jurisdictions; advance notification is requested prior to shipment of specimen
Limitations:	<p>The assay is specific for members of the <i>Mycobacterium tuberculosis</i> complex, but does not differentiate the members within the complex. The assay should always be performed with culture. This test is for patients who have received no antituberculous therapy, less than 7 days of such therapy, or have not received such therapy in the past 12 months.</p> <p>If submitting sediments, they must be prepared by the NALC-NaOH digestion/decontamination procedure and resuspended in a 67mM concentration of phosphate buffer. Sediments prepared using Alpha-Tec Systems NAC-PAC™ XPR-plus™ AFB Processing Buffer has been shown to interfere with amplification.</p>
Fees:	Public health investigation testing - Exempt Non-public health investigation testing - Fee Due
Causes for Rejection:	Inappropriate specimen transport container; Unlabeled or mislabeled specimen; Inappropriate transport conditions; Incomplete or missing specimen submission form; Sample leakage during transport; Inappropriate sample for test ordered; Sample outdated, exceeds appropriate time from collection to receipt; Quantity not sufficient to perform test; Improperly preserved sample; Grossly bloody specimen
Turnaround Time:	2 days
Forms Required:	Microbiology submission form HEA 2530 ( <a href="#">Appendix A</a> )
Sample Requirements:	At least 500 µL of sediment or a minimum 5 ml of unprocessed sputum, bronchial specimen, or tracheal aspirate  Collect in sterile 50cc screw-capped centrifuge tubes (BD Falcon 352070 or equivalent)
Shipping Requirements:	Ship overnight using Biological Substance, Category B classification and an insulated box with cold packs

## ***Mycobacterium tuberculosis* Susceptibility Testing**

Use of Test:	Antibiotic susceptibility testing of <i>Mycobacterium tuberculosis</i>
Test Includes:	Non-radiometric broth susceptibility test for the following antituberculous drugs: Streptomycin, Isoniazid, Rifampin, Ethambutol, and Pyrazinamide
Availability:	Test is available to all clinical laboratories and local public health jurisdictions
Limitations:	Susceptibility testing is only performed on <i>Mycobacterium tuberculosis</i> . Requests for susceptibility testing on other <i>Mycobacterium</i> species may be available from CDC with the exception of <i>M. avium</i> Complex isolates.
Fees:	Public health investigation testing - Exempt Non-public health investigation testing - Fee Due
Causes for Rejection:	Inappropriate specimen transport container; Unlabeled or mislabeled specimen; Inappropriate transport conditions; Incomplete or missing specimen submission form; Sample leakage during transport; Inappropriate sample for test ordered; Sample outdated, exceeds appropriate time from collection to receipt; Quantity not sufficient to perform test; Improperly preserved sample
Turnaround Time:	14 days (isolates), 35 days (culture)
Forms Required:	Microbiology submission form HEA 2530 ( <a href="#">Appendix A</a> )
Sample Requirements:	Pure subculture of <i>Mycobacterium tuberculosis</i> on agar slant or liquid medium to support organism growth
Shipping Requirements:	Ship at ambient temperature using Infectious Substance, Category A classification

## ***Neisseria meningitidis* (Referred Isolate)**

Use of Test:	Identification and serogrouping of isolates for epidemiological investigations
Test Includes:	Standard biochemical tests; serogrouping (groups B, C and Y)
Availability:	Test is available to all clinical laboratories and local public health jurisdictions
Limitations:	<p>Do not submit mixed culture. Should a mixed culture arrive, the submitter will be notified and requested to resubmit a pure isolate of the organism of interest.</p> <p>Isolates of <i>Neisseria meningitidis</i> from normally sterile sites (CSF, Blood) will be identified and serogrouped. Isolates that are not Serogroup B, C or Y will be sent to the CDC for further characterization.</p>
Fees:	Public health investigation testing - Exempt
Causes for Rejection:	Inappropriate specimen transport container; Unlabeled or mislabeled specimen; Inappropriate transport conditions; Incomplete or missing specimen submission form; Sample leakage during transport; Inappropriate sample for test ordered; Sample outdated, exceeds appropriate time from collection to receipt; Quantity not sufficient to perform test; Improperly preserved sample
Turnaround Time:	2 days
Forms Required:	Microbiology submission form HEA 2530 ( <a href="#">Appendix A</a> )
Sample Requirements:	Pure subculture of organism on agar slant to support organism growth
Shipping Requirements:	Ship at ambient temperature using Biological Substance, Category B classification

## Norovirus (Clinical Material)

Use of Test:	Detection of Norovirus in outbreaks of non-bacterial gastroenteritis for epidemiological investigations
Test Includes:	Reverse-transcriptase polymerase chain reaction (RT-PCR)
Availability:	Test is available to all local public health jurisdictions  Prior consultation with ODH Outbreak Response and Bioterrorism Investigation Team (ORBIT) through the appropriate local health jurisdiction is required  For related testing options, see section for “ <a href="#">Enteric Bacterial Pathogens (Fecal Material)</a> ”
Limitations:	Maximum of five bulk stool specimens per outbreak will be tested; consult with ODH ORBIT if additional testing required
Fees:	Public health investigation testing - Exempt
Causes for Rejection:	Inappropriate specimen transport container; Unlabeled or mislabeled specimen; Inappropriate transport conditions; Incomplete or missing specimen submission form; Sample leakage during transport; Inappropriate sample for test ordered; Sample outdated, exceeds appropriate time from collection to receipt; Quantity not sufficient to perform test; Improperly preserved sample
Turnaround Time:	5 days
Forms Required:	Microbiology Submission Form HEA 2530 ( <a href="#">Appendix A</a> )
Sample Requirements:	Minimum of 2 ml of liquid stool (or 2 gram of formed stool); vomitus may be submitted under special circumstances  Collect in sterile, wide-mouth screw-cap or equivalent containers.  Cary-Blair transport medium, snap-cap containers and specimens submitted on swabs are not acceptable
Shipping Requirements:	Ship overnight using Biological Substance, Category B classification in an insulated box with cold packs
Note:	Refer to <a href="#">Updated Norovirus Outbreak Management and Disease Prevention, Recommendations and Reports, March 4, 2011 / 60 (RR03); 1-15</a> , for the most current recommendations and guidance

## Pulsed-Field Gel Electrophoresis

Use of Test:	DNA fingerprinting of bacterial isolates for food-borne disease surveillance (PulseNet) and epidemiological investigations
Test Includes:	Gel electrophoresis
Availability:	Test is available to all clinical laboratories and local public health jurisdictions  Prior consultation with ODH Outbreak Response and Bioterrorism Investigation Team (ORBIT) through the appropriate local health jurisdiction is required
Limitations:	Routine surveillance is performed on the following organisms: <i>Shiga-toxin producing E. coli</i> , <i>Salmonella</i> , and <i>Listeria monocytogenes</i>
Fees:	Public health/outbreak investigation testing - Exempt Non-public health/surveillance investigation testing - Fee Due
Causes for Rejection:	Inappropriate specimen transport container; Unlabeled or mislabeled specimen; Inappropriate transport conditions; Incomplete or missing specimen submission form; Sample leakage during transport; Inappropriate sample for test ordered; Sample outdated, exceeds appropriate time from collection to receipt; Quantity not sufficient to perform test; Improperly preserved sample
Turnaround Time:	7 days
Forms Required:	Microbiology Submission Form HEA 2530 ( <a href="#">Appendix A</a> )
Sample Requirements:	Pure subculture of organism on agar slant to support organism growth
Shipping Requirements:	Ship at ambient temperature using Biological Substance, Category B classification

## Rabies Virus

Use of Test:	Detection of rabies virus in domestic or wild animals
Test Includes:	Immunofluorescent Antibody (IFA)
Availability:	Test is available to the public, all veterinary clinics, and local public health jurisdictions  Persons suspecting an exposure should notify their physician and contact ODH Zoonotic Disease Program for proper specimen collection guidance
Limitations:	Live animals are unacceptable  Tissue must be fresh; do not submit decomposed specimens or specimens fixed in formalin
Fees:	Rodents (including gerbils, hamsters, guinea pigs, mice, rabbits, rats, squirrels, chipmunks, shrews and moles) - Fee Due Other animal species - Exempt
Causes for Rejection:	Inappropriate specimen transport container; Unlabeled or mislabeled specimen; Inappropriate transport conditions; Incomplete or missing specimen submission form; Sample leakage during transport; Inappropriate sample for test ordered; Sample outdated, exceeds appropriate time from collection to receipt; Quantity not sufficient to perform test; Improperly preserved sample
Turnaround Time:	1 day
Forms Required:	Microbiology submission form HEA 2539 ( <a href="#">Appendix J</a> )
Sample Requirements:	Refer to Appendix J for collection and handling instructions
Shipping Requirements:	Refer to Appendix J for shipping instructions

## Respiratory Virus Panel (Non-Influenza)

Use of Test:	Detection of respiratory viruses; includes Adenovirus, Human Metapneumovirus, Parainfluenza 1-3, and Respiratory Syncytial Virus
Test Includes:	Real Time Reverse Transcriptase Polymerase Chain Reaction (rRT-PCR) amplification (Cell culture and identification by Indirect Immunofluorescence Assay; hemadsorption for Parainfluenza virus demonstrating no cytopathic effect in cell culture if necessary for proper characterization)
Availability:	Test is available to all clinical laboratories and local public health jurisdictions
Limitations:	Assay is performed only as a supplemental test during possible pandemic epidemiologic investigations  Refrigerated specimens must be tested within 3 days of collection
Fees:	Public health investigation testing - Exempt
Causes for Rejection:	Inappropriate specimen transport container; Unlabeled or mislabeled specimen; Inappropriate transport conditions; Incomplete or missing specimen submission form; Sample leakage during transport; Inappropriate sample for test ordered; Sample outdated, exceeds appropriate time from collection to receipt; Quantity not sufficient to perform test; Improperly preserved sample
Turnaround Time:	2 days (diagnostic); 7 days (surveillance)
Forms Required:	Microbiology submission form HEA 2530 ( <a href="#">Appendix A</a> )
Sample Requirements:	Throat or nasopharyngeal swabs; nasal swabs, nasal aspirates, nasal washes, dual nasopharyngeal /throat swabs; bronchoalveolar lavage, bronchial wash, or tracheal aspirates  Submit swabs in viral transport media; specimens can be stored up to 3 days in transport medium at 2-8° C; if transport is delayed, specimens must be stored at -70° C  Contact ODHL Customer Service to obtain collection kits
Shipping Requirements:	Ship overnight using Biological Substance, Category B classification and an insulated box with cold packs or if frozen ship overnight on dry ice

## Respiratory Virus Panel (Influenza A and B)

Use of Test:	Detection of Influenza A or B virus for routine surveillance
Test Includes:	Real Time Reverse Transcriptase Polymerase Chain Reaction (rRT-PCR) amplification (Cell culture and identification by Indirect Immunofluorescence Assay; typing by hemagglutination test if necessary for proper characterization)
Availability:	Only pre-approved sites may submit specimens for testing
Limitations:	Testing of clinical specimens for possible H5 strains or suspected novel influenza viruses MUST be arranged with Outbreak Response and Bioterrorism Investigation Team (ORBIT) and the appropriate local health jurisdiction prior to shipment to ODHL.  Refrigerated surveillance specimens must be tested within 5 days of collection (3 days for non-surveillance, diagnostic specimens)
Fees:	Public health investigation testing - Exempt
Causes for Rejection:	Inappropriate specimen transport container; Unlabeled or mislabeled specimen; Inappropriate transport conditions; Incomplete or missing specimen submission form; Sample leakage during transport; Inappropriate sample for test ordered; Sample outdated, exceeds appropriate time from collection to receipt; Quantity not sufficient to perform test; Improperly preserved sample
Turnaround Time:	2 days (diagnostic); 7 days (surveillance)
Forms Required:	Microbiology submission form HEA 2530 ( <a href="#">Appendix A</a> )
Sample Requirements:	Acute phase nasal or nasopharyngeal swab or washings in viral transport media  If submission of sample will delay testing beyond 5 days from collection (3 days for diagnostic), specimens must be stored at -70°C  Contact ODHL Customer Service to obtain a collection kit
Shipping Requirements:	Ship overnight using Biological Substance, Category B classification and an insulated box with cold packs or if frozen ship overnight on dry ice

## Select Agent/Biothreat Agent (Environmental Specimens)

Use of Test:	Detection, isolation and identification of biothreat or select agents as part of public health and law enforcement investigations
Test Includes:	Selective media; standard biochemicals; time-resolved fluorescence (TRF); polymerase chain reaction (PCR)
Availability:	<p>Test is available to all local public health jurisdictions and law enforcement</p> <p>Prior consultation with ODH Outbreak Response and Bioterrorism Investigation Team (ORBIT) through the appropriate local health jurisdiction is required</p> <p>After normal business hours contact the local health jurisdiction emergency response service or the ODH 24/7 Public Health Response Service</p>
Limitations:	All amplification results are considered preliminary and must be confirmed by culture or alternate detection method
Fees:	Public health investigation testing - Exempt
Causes for Rejection:	Inappropriate specimen transport container; Unlabeled or mislabeled specimen; Inappropriate transport conditions; Incomplete or missing specimen submission form; Sample leakage during transport; Inappropriate sample for test ordered; Sample outdated, exceeds appropriate time from collection to receipt; Quantity not sufficient to perform test; Improperly preserved sample
Turnaround Time:	1 day (PCR and TRF); 3 to 5 days (culture)
Forms Required:	Ohio Department of Health Environmental Sample Submission Form, HEA 2530E ( <a href="#">Appendix K</a> )
Sample Requirements:	Refer to <a href="#">Appendix L</a> for collection and handling instructions
Shipping Requirements:	Deliver the environmental specimens according to instructions ( <a href="#">Appendix L</a> )
Other:	Refer to the website <a href="http://www.selectagents.gov/">http://www.selectagents.gov/</a> for information on the requirements for storage, reporting and transfer of select agents and toxins

## Select Agent/Biothreat Agent (Clinical specimens)

Use of Test:	Detection, isolation and characterization identification of biothreat or select agent in clinical samples
Test Includes:	Selective media; standard biochemicals; polymerase chain reaction (PCR)
Availability:	<p>Test is available to all clinical laboratories and local public health jurisdictions</p> <p>Prior consultation with ODH Outbreak Response and Bioterrorism Investigation Team (ORBIT) through the appropriate local health jurisdiction is required</p> <p>After normal business hours contact the local health department emergency response service or the ODH 24/7 Public Health Response Service</p>
Limitations:	All amplification results performed on clinical samples are considered preliminary results. Further testing will be performed to confirm and characterize the suspect agent.
Fees:	Public health investigation testing - Exempt
Causes for Rejection:	Inappropriate specimen transport container; Unlabeled or mislabeled specimen; Inappropriate transport conditions; Incomplete or missing specimen submission form; Sample leakage during transport; Inappropriate sample for test ordered; Sample outdated, exceeds appropriate time from collection to receipt; Quantity not sufficient to perform test; Improperly preserved sample
Turnaround Time:	1 day (PCR); 3 to 5 days (culture)
Forms Required:	Microbiology Submission Form HEA 2530 ( <a href="#">Appendix A</a> )
Sample Requirements:	Refer to <a href="#">Appendix M</a> for collection and handling instructions for orthopoxvirus and refer to <a href="#">Appendix N</a> for other agents
Shipping Requirements:	Ship overnight using Biological Substance, Category B classification (refer to appropriate appendix for shipment temperature)
Other:	Refer to the website <a href="http://www.selectagents.gov/">http://www.selectagents.gov/</a> for information on the requirements for storage, reporting and transfer of select agents and toxins

## Select Agent/Biothreat Agent (Isolate)

Use of Test:	Identification of biothreat or select agent
Test Includes:	Selective media; standard biochemicals; polymerase chain reaction (PCR)
Availability:	Test is available to all clinical laboratories and local public health jurisdictions

**High Suspicion Bacterial Isolates:** Isolates that have been presumptively identified as a select agent. Examples include *Bacillus anthracis*, *Yersinia pestis* and fastidious organisms such as *Brucella* species and *Francisella tularensis*

Prior consultation with ODH Outbreak Response and Bioterrorism Investigation Team (ORBIT) through the appropriate local health jurisdiction is required

After normal business hours contact the local public health jurisdiction emergency response service or the ODH 24/7 Public Health Response Service

**Low Suspicion Bacterial Isolates (Rule-Out Testing):** Laboratories unable to rule-out a select agent may submit directly to the ODHL for assistance with identification; notification of ORBIT is not necessary. For example, *Bacillus* species that do not appear to be *B. anthracis* but testing performed at the clinical laboratory does not rule out the identification.

Limitations:	Clinical laboratories are encouraged to follow the <a href="#">sentinel laboratory protocols</a> published by the American Society for Microbiology to assist with preliminary characterization of potential select agent isolates
	When submitting an isolate to the ODHL, include results of testing performed at the clinical laboratory

Fees:	Public health investigation testing - Exempt
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Causes for Rejection:	Inappropriate specimen transport container; Unlabeled or mislabeled specimen; Inappropriate transport conditions; Incomplete or missing specimen submission form; Sample leakage during transport; Inappropriate sample for test ordered; Sample outdated, exceeds appropriate time from collection to receipt; Quantity not sufficient to perform test; Improperly preserved sample
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Turnaround Time:	1 day (PCR); 2 days (DNA probe); 3 to 5 days (culture)
Forms Required:	Microbiology Submission Form HEA 2530 ( <a href="#">Appendix A</a> )
Sample Requirements:	Pure culture on agar slant to support organism growth
Shipping Requirements:	Ship at ambient temperature using Biological Substance, Category B classification for low suspicion isolates; Infectious Substance, Category A for high suspicion isolates
Other:	Refer to the website <a href="http://www.selectagents.gov/">http://www.selectagents.gov/</a> for information on the requirements for storage, reporting and transfer of select agents and toxins

## Shiga Toxin-producing *Escherichia coli*

Use of Test:	Determine capability of an isolate of <i>Escherichia coli</i> to produce shiga toxin(s); includes recovery and characterization of shiga toxin-producing <i>E. coli</i> (STEC) from submitted enteric broth cultures
Test Includes:	Isolation of STEC; biochemical identification; serotyping; polymerase chain reaction for presence of STX-1/STX-2
Availability:	Test is available to all clinical laboratories and local public health jurisdictions  For related testing options, see section for <a href="#">Enteric Bacterial Pathogens (Fecal Material)</a>
Limitations:	Only isolates of <i>E. coli</i> O157 and <i>E. coli</i> non-O157 associated with cases of hemolytic uremic syndrome (HUS), thrombotic thrombocytopenic purpura (TTP), or diarrheal disease will be tested. Those cultures that cannot be typed by the ODHL will be submitted to CDC for further characterization.
Fees:	Public health investigation testing - Exempt
Causes for Rejection:	Inappropriate specimen transport container; Unlabeled or mislabeled specimen; Inappropriate transport conditions; Incomplete or missing specimen submission form; Sample leakage during transport; Inappropriate sample for test ordered; Sample outdated, exceeds appropriate time from collection to receipt; Quantity not sufficient to perform test; Improperly preserved sample
Turnaround Time:	8 days
Forms Required:	Microbiology Submission Form HEA 2530 ( <a href="#">Appendix A</a> )
Sample Requirements:	Pure subculture of organism on agar slant to support organism growth; EIA Shiga toxin positive broth culture (e.g., MacConkey Broth or GN Broth); Cary-Blair transport medium
Shipping Requirements:	Ship isolates at ambient temperature using Infectious Substance, Category A; ship broth overnight using Biological Substance, Category B classification in an insulated box with coolant, DO NOT FREEZE; ship Cary-Blair overnight at ambient temperature using Biological Substance, Category B classification

## Appendices

- [Appendix A](#) Microbiology Specimen Submission Form (HEA 2530)
- [Appendix B](#) Ohio Department of Health Laboratory Collection Kits
- [Appendix C](#) *Clostridium botulinum* & Botulinum Neurotoxin Specimen Collection and Shipping Guidelines
- [Appendix D](#) Infertility Prevention Project Requisition Form (HEA 2552)
- [Appendix E](#) Modified Cary-Blair Specimen Collection Guidelines
- [Appendix F](#) Food Sample Submission Form
- [Appendix G](#) Food Sample Collection and Transport Guidelines
- [Appendix H](#) HIV Specimen Submission Form
- [Appendix I](#) Mycobacterial Specimen Collection and Transport Guidelines
- [Appendix J](#) Rabies Test Submission Report (HEA 2539)
- [Appendix K](#) Biothreat Environmental Sample Submission Form (HEA 2530E)
- [Appendix L](#) Biothreat Agent Submission Information for Environmental Samples
- [Appendix M](#) Orthopoxvirus Clinical Specimen Collection and Transport Guidelines
- [Appendix N](#) Biothreat Agent Submission Information for Clinical Specimens
- [Appendix O](#) Price List



## ODH Microbiology Specimen Submission Form (Form HEA 2530) Instructions

- 1) One HEA 2530 is required for each specimen submitted to the Ohio Department of Health Laboratory (ODHL) for the testing listed on this form.
- 2) Please print legibly.
- 3) Each field marked with an asterisk (\*) is required information.
- 4) Section 1: Submitter's may include a patient specimen identification or medical record number in the box labeled 'Chart or Patient ID#'.
- 5) Section 2: In order to receive results by fax, a Health Information Portability and Accountability Act (HIPAA) secure fax declaration form must be on file with the ODHL. If necessary, contact Microbiology Customer Service 888/ODH-LABS to request a HIPAA secure fax form. Reports will be mailed to the submitter if a fax number is not provided.
- 6) Section 3:
  - a. 'Specimen' – indicate the type of specimen being submitted. For instance, if a BAL from a human is submitted, mark the bullet labeled 'Clinical (Human Origin)'; if the specimen is an isolate recovered from a BAL from a human, mark the bullet labeled 'Isolate (Human Origin)'.
  - b. 'Specimen Type' – indicate specimen source, e.g., BAL.
  - c. 'ODH Outbreak Number' – for a specimen associated with an outbreak under investigation by ODH Outbreak Response and Bioterrorism Investigation Team (ORBIT), enter the assigned outbreak number.
- 7) Section 4:
  - a. Indicate the test(s) requested.
  - b. Fields marked with a double asterisk (\*\*) require approval prior to submission.
- 8) 'Comments': Enter additional information related to the specimen submission.
- 9) 'For Use by the Ohio Department of Health Laboratory Only': Please do not mark in this area.

## Collection Kits

To arrange for the receipt of a specimen collection kit, please contact ODHL Microbiology Customer Service at 888/ODH-LABS.

<b>Kit Type</b>	<b>Contents</b>	<b>Specimen Form</b>	<b>Special Instructions</b>
Cryptosporidia	1-Vial system: 1 bottle 10% formalin; collection instructions	Microbiology Specimen Submission Form HEA 2530 (Appendix A)	Ship at ambient temperature using Biological Substance, Category B classification
Enteric bacterial pathogens	Modified Cary-Blair; collection instructions	Microbiology Specimen Submission Form HEA 2530 (Appendix A)	Ship overnight using Biological Substance, Category B classification and an insulated box with cold packs.
Foodstuff	Refer to Appendix G	Food Sample Submission Form HEA Food (Appendix F)	Refer to Appendix G
Respiratory virus panel (Influenza A and B)	Viral transport media; collection swab	Microbiology Specimen Submission Form HEA 2530 (Appendix A)	Ship overnight using Biological Substance, Category B classification and an insulated box with cold packs or if frozen ship overnight on dry ice
Tuberculosis	50 ml sterile plastic centrifuge tube; mailing containers; collection instructions	Microbiology Specimen Submission Form HEA 2530 (Appendix A)	Ship overnight using Biological Substance, Category B classification and an insulated box with cold packs

## ***Clostridium botulinum* & Botulinum Neurotoxin Specimen Collection, Handling, and Shipping Guidelines**

Disease/Agent	Specimen Selection				Shipping & Storage*	Specimen Handling	
Botulism (botulinum toxin)	Specimen type	Clinical syndrome				Specimen(s) of choice for confirming botulism: 1. Serum                      3. Stool 2. Wound/tissue        4. Incriminated food	
		Foodborne	Infant	Wound	Intentional release (airborne)		
	Enema fluid – 20 ml	X	X		X	2-8°C	Purge with a minimal amount of sterile non-bacteriostatic water to minimize dilution of toxin
	Food sample – 10-50g Liquid sample – 10-50ml	X	X		X	Ship at temperature as found when collected	Foods that support <i>C. botulinum</i> growth will have a pH of 3.5-7.0; most common pH is 5.5-6.5. Submit food in original container where possible or in leak-proof sealed transport devices. Botulinum toxin in commercial products is rare; contact the US FDA immediately if a commercial product is suspected of containing botulinum toxin.
	Gastric fluid – 20 ml	X, A				2-8°C	Collect up to 20 ml
	Intestinal fluid – 20 ml	A	A			2-8°C	Intestinal contents from various areas of the small and large intestines should be provided
	Nasal swab (anaerobic swab)				X	Room Temp	For aerosolized botulinum toxin exposure, obtain nasal cultures for <i>C. botulinum</i> and serum for mouse toxicity testing
	Serum – 15-20 mls	X, A		X	X	2-8°C	Serum should be obtained as soon as possible after the onset of symptoms and before antitoxin is given. Serum is required for mouse toxicity testing. In infants, serum is generally not useful, since the toxin is quickly absorbed before serum can be obtained.
	Stool ≥25 g	X	X	X	X	2-8°C	Botulism has been confirmed in infants with only “pea-size” stools. Please note: Anticholinesterase given orally, as in patients with myasthenia gravis, has been shown to interfere with toxin testing. <i>C. botulinum</i> has been isolated from stools following antitoxin treatment.
	Vomitus - 20 ml	X				2-8°C	Collect up to 20 ml
Wound or Tissue			X		2-8°C	Anaerobic swab or transport system	

\*Refrigerated specimens that cannot be shipped to assure receipt within 72 hours of collection, freeze at ≤ -20°C

A= Autopsy specimens acceptable for certain specimen types

Revised 2012

Microbiology Client Services Manual



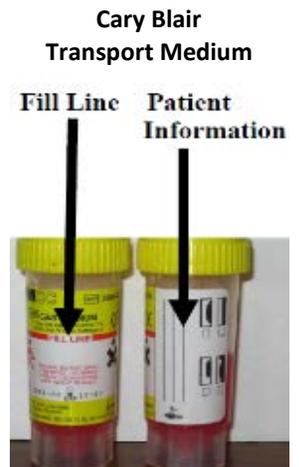
# Patient Instructions for Collecting Stool Specimens

1. Use the Stool Specimen Collector Pan by placing it under the toilet seat. If you did not receive a collector pan, collect stool on a newspaper or plastic wrap placed on the rim of the toilet bowl and held down by the toilet seat. You may be asked to provide a stool specimen in Cary Blair Transport Media (also called C&S medium) and/or in a bulk stool specimen container.

## DO NOT GET URINE (PEE) IN THE STOOL SPECIMEN.



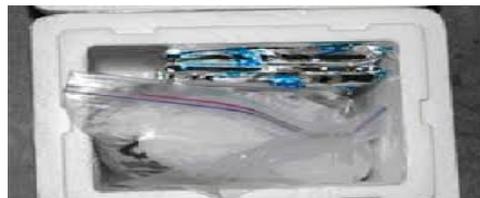
2. Prior to adding stool to the containers, use a pen or permanent marker and neatly label the Cary Blair and/or Bulk Stool Container with your name and date of birth.
3. Using the collection spoon built into the lid of the Cary Blair, fill the vial until the contents reach the "FILL LINE" on the label. Important: Do Not Over-Fill. A plastic spoon or tongue depressor may also be used. If asked to provide a bulk specimen, put about 4 tablespoons of stool into the Bulk Stool Specimen Container. When putting the specimen into the container, select areas of the stool that appear bloody or watery, or if mostly solid, select small amounts from each end and the middle.



4. Securely fasten the lid of the containers, gently mix stool specimen with the Cary Blair medium by gently inverting the vial several times. Place the container into the zip lock portion of the specimen bag. Only place one specimen container per bag. Completed paperwork should be placed into the outer pocket of the specimen bag.



5. Keep the Cary Blair at room temperature. The bulk stool specimen should be kept cool, either in a refrigerator or on a cold pack in a cooler. **DO NOT FREEZE EITHER SPECIMEN.**



6. Contact the Health Department at \_\_\_\_\_ to make arrangements for pick-up or delivery your specimens.

Video instructions for the collection of Cary Blair and bulk stool specimens can be found at:

[http://progressive.powerstream.net/008/00153/Stool\\_Sample\\_Collection\\_for\\_Patients.mp4](http://progressive.powerstream.net/008/00153/Stool_Sample_Collection_for_Patients.mp4)



**Ohio Department of Health Laboratory  
Food Sample Report Form**

Test Requested	Presence	Absence	Enumeration
<input type="checkbox"/> <i>Bacillus cereus</i>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> <i>Campylobacter</i> species	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> <i>Clostridium botulinum</i>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> <i>Clostridium perfringens</i>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Coliform Count	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> <i>E. coli</i> (Shiga toxin-producing)	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> <i>Listeria monocytogenes</i>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> <i>Salmonella</i>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> <i>Shigella</i>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> <i>Vibrio parahaemolyticus</i>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> <i>Vibrio</i> sp, other: _____	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> <i>Yersinia</i> species	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> <i>Bacillus cereus</i> enterotoxin	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Botulinum neurotoxin	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Staphylococcal enterotoxin	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Other (specify)			
<b>Comments</b>			<b>ODH LAB ID #</b>
<b>Laboratory Analyst</b>	<b>Date Received</b> <b>Date Reported</b>		<b>Agent Identified</b>

**ODHL Food Sample Collection Kit Re-supply Request**

**Complete Food Collection and Shipping Kit:** # Requested \_\_\_\_\_

**Individual Food Collection and Shipping Kit Components:**

IATA-B Refrigerated Shipper: # Requested \_\_\_\_\_

Sterile Specimen Container, 90 mL: # Requested \_\_\_\_\_

Sterile Whirl-Pak Bags 18oz - Write on Style: # Requested \_\_\_\_\_

Sterile Whirl-Pak Bags 24oz - Write on Style: # Requested \_\_\_\_\_

Sterile Stand-Pak Pouches: # Requested \_\_\_\_\_

Sterile Disposable General-Purpose Polyethylene Transfer Pipets: # Requested \_\_\_\_\_

Sterile Disposable Spatula: # Requested \_\_\_\_\_

Sterile Disposable Forceps: # Requested \_\_\_\_\_

Ship To -           Attn: \_\_\_\_\_

                          Agency: \_\_\_\_\_

                          Address: \_\_\_\_\_

                          \_\_\_\_\_

## **ODHL Food Sample Submission Form Instructions**

- 1) Each field marked with an asterisk (\*) is required information.
- 2) One HEA Food Form is required for each food sample submitted to the Ohio Department of Health Laboratory (ODHL) for the testing listed on this form.
- 3) Please print legibly.
- 4) Section 1:
  - a. Reporting: Reports will be sent by fax to the number provided. If a fax number is not provided, reports will be sent via U.S. mail to the address provided.
- 5) Section 2: Submitters should consider establishing a Chain of Custody (COC) in certain, if not all, investigations involving submission of food samples to the ODHL.
- 6) Section 3:
  - a. 'Submitter Sample Identification #' – optional information; included to assist submitters that assign a tracking number to each food collection and submission.
  - b. 'Shipping' - Ship items at same temperature conditions existing at time of collection to maintain integrity of the sample during storage prior to and during shipment to the ODHL.
- 7) Section 4: In consultation with ORBIT, indicate the test(s) requested.
- 8) 'Comments': Enter additional information related to the specimen submission.
- 9) 'For Use by the Ohio Department of Health Laboratory Only': Please do not mark in this area.
- 10) Refer to document entitled 'Food Sample Collection and Shipment Guidelines' for further instructions.

# Food Sample Collection and Shipment Guidelines

## 1. Purpose:

The Ohio Department of Health Laboratory (ODHL) is providing a food sample collection and packaging kit. The kit is designed to assist in the collection, packaging and shipping of suspect foods to the ODHL as part of food-borne illness investigations. The kits will be provided with continued availability of funding. Local health departments are encouraged to keep unused items in reserve for later use. To request more food kits, please fill out the Food Sample Collection Kit Re-supply Request that appears on page 2 of the Food Sample Submission form and include it in your shipment or call the 888/ODH-LABS.

## 2. Kit Contents:

- 2.1. IATA-B Refrigerated Shipper – 1 each
- 2.2. Sterile Specimen Container, 90 mL – 3 each
- 2.3. Sterile Whirl-Pak Bags 18oz - Write on Style – 3 each
- 2.4. Sterile Whirl-Pak Bags 24oz - Write on Style – 3 each
- 2.5. Sterile StandPak Pouches – 3 each
- 2.6. Sterile Disposable General-Purpose Polyethylene Transfer Pipets – 3 each
- 2.7. Sterile Disposable Spatula – 3 each
- 2.8. Sterile Disposable Forceps – 3 each
- 2.9. Note: The kits will include ancillary items such as cold packs and bubble wrap. From time to time there may be items missing due to supplier backorders. These items will be provided as they become available.



## 3. Sampling Guideline:

- 3.1. Consult with the ODH Outbreak Response and Bioterrorism Investigation Team (ORBIT) at 614/995-5599 regarding the foods to collect prior to sample collection and shipping.
- 3.2. A minimum of 35 grams of a solid food item or 35 mL of a liquid food item is required.
- 3.3. Always use aseptic technique when collecting and handling food samples to be tested.
- 3.4. Use separate sterile utensils and containers for each food item.

3.5. Send the types and amounts of each suspect food item as instructed by ORBIT.

#### **4. Packaging Guideline:**

- 4.1. Label each container with a description of the food item prior to filling.
- 4.2. Tear the seal at the top of the bag and place food item inside allowing for enough room at the top of the bag to properly seal. Sealing of the bag is accomplished by rolling the bag down towards the food item several times and crimping the wire tabs onto the bag. Take care not to puncture the bags with the wire tab.
- 4.3. Sterile cups are provided for liquid items. Secure the lid tightly and place cup in Whirl-Pak bag to prevent contamination of other products should leakage occur during shipment.

#### **5. Shipping Guideline:**

- 5.1. Arrange for shipping of items to the laboratory as soon as possible following collection. Contact ORBIT staff at 614/995-5599 prior to shipping.
- 5.2. Maintain food items in the condition as found when collected or sampled. For instance, items collected from refrigeration should be maintained and shipped at refrigerator temperatures (2–8°C / 35-46°F). Items collected in a frozen state should be maintained and shipped frozen. Dry goods, such as cereals, or other foods typically maintained at room temperature storage should be maintained and shipped at room temperature (20 – 22°C / 68 – 72°F).  
NOTE: The type and numbers of microorganisms can change overtime especially with changes in storage conditions. Samples should be collected and transported to the laboratory in a manner that is efficient and under conditions that will minimize changes to create the most favorable opportunity to recover the contaminating organism.
- 5.3. If the sample has been held at refrigeration temperatures, please use the included ice packs to keep the food cool during shipping.
- 5.4. Frozen items should be held in a freezer and shipped on dry ice.
- 5.5. Only send food items from one outbreak investigation per shipping container.
- 5.6. Do not over fill a shipping container. If one container is not sufficient for the number of samples to be submitted or there are samples that must be stored and shipped under differing conditions, use additional containers. Contact ORBIT to arrange shipment of additional containers by overnight courier.

#### **6. Form:**

- 6.1. Consult with ORBIT staff at 614/ 995-5599 about the tests to request.
- 6.2. Complete the fillable Ohio Department of Health Laboratory, Food Sample Submission Form, Form HEA FOOD (ODH Lab Rev 12/2011) for each food item.
- 6.3. Instructions for completing the form can be found on the reverse side of the form.

**HIV SAMPLING SUBMISSION FORM**  
**Ohio Department of Health – Bureau of Public Health Laboratories**  
**8995 East Main Street Reynoldsburg, Ohio 43068**

Unique Agency ID: \_\_\_\_\_ Site ID: \_\_\_\_\_ Phone: \_\_\_\_\_

Agency Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ County: \_\_\_\_\_ Zip: \_\_\_\_\_

**INSTRUCTIONS:**

- Prepare this sheet for each group of five or fewer samples.
- Insert the site information where the sample was collected on the top of this form.
- Place one HIV Test Form label for each sample drawn in the boxes noted. Fill in the date collected, the Specimen Type, and indicate if the sample was RAPID Test Reactive.
- Blood / serum samples and oral fluid samples from the same site need to be put on separate submission forms.
- For questions call Customer Service @ 888-ODH-Labs, option 2.

**Specimen Type:** (check one)

- Blood / Serum  
 Oral Fluid

Check here if the sample is **RAPID** Test Reactive.

Place HIV Test Form label here and on sample

Bar Code label here  
For ODH Lab use only

Sample Collection Date  
\_\_\_\_/\_\_\_\_/\_\_\_\_

**Specimen Type:** (check one)

- Blood / Serum  
 Oral Fluid

Check here if the sample is **RAPID** Test Reactive.

Place HIV Test Form label here and on sample

Bar Code label here  
For ODH Lab use only

Sample Collection Date  
\_\_\_\_/\_\_\_\_/\_\_\_\_

**Specimen Type:** (check one)

- Blood / Serum  
 Oral Fluid

Check here if the sample is **RAPID** Test Reactive.

Place HIV Test Form label here and on sample

Bar Code label here  
For ODH Lab use only

Sample Collection Date  
\_\_\_\_/\_\_\_\_/\_\_\_\_

**Specimen Type:** (check one)

- Blood / Serum  
 Oral Fluid

Check here if the sample is **RAPID** Test Reactive.

Place HIV Test Form label here and on sample

Bar Code label here  
For ODH Lab use only

Sample Collection Date  
\_\_\_\_/\_\_\_\_/\_\_\_\_

**Specimen Type:** (check one)

- Blood / Serum  
 Oral Fluid

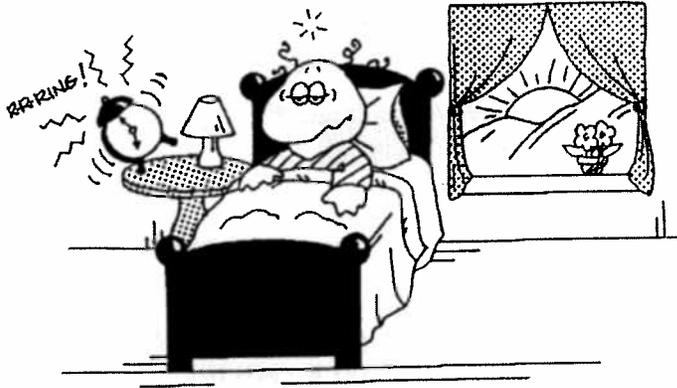
Check here if the sample is **RAPID** Test Reactive.

Place HIV Test Form label here and on sample

Bar Code label here  
For ODH Lab use only

Sample Collection Date  
\_\_\_\_/\_\_\_\_/\_\_\_\_

State of Ohio Department of Health  
**Sputum Collection Instructions**



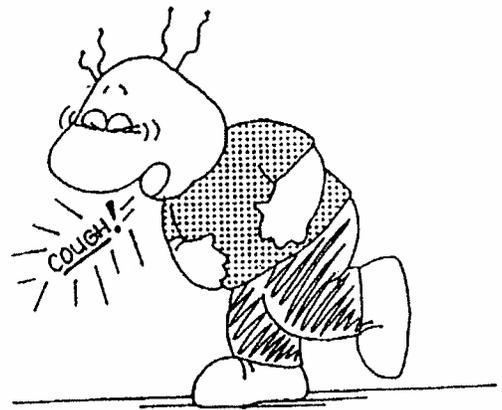
**1. WHEN YOU FIRST GET UP IN THE MORNING.....**



**2. RINSE YOUR MOUTH WITH WATER SEVERAL TIMES.....**



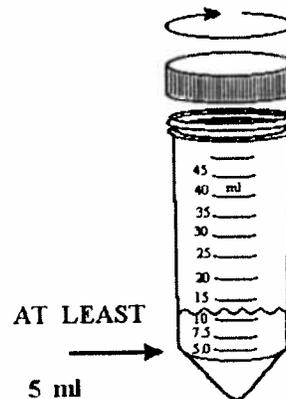
**3. SPIT THE WATER INTO THE SINK.....**



**4. BREATHE DEEPLY 3 TIMES, HOLDING EACH BRIEFLY. AFTER THE THIRD BREATH, COUGH DEEPLY (A HARD COUGH) .....**

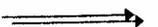


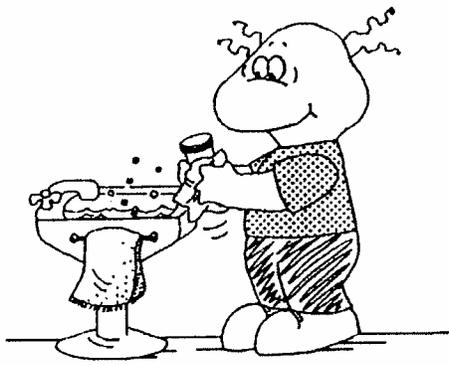
**5. SPIT WHAT YOU COUGH UP INTO THE PLASTIC CONTAINER.....**



**6. REPEAT STEPS 4 & 5 IF LESS THAN 5ml. CLOSE THE CAP TIGHTLY TO PREVENT LEAKS.....**

more





**7. WASH THE OUTSIDE OF THE CONTAINER WITH SOAP AND WATER, AND DRY. PRINT YOUR NAME ON THE CONTAINER. DO NOT USE TAPE.....**

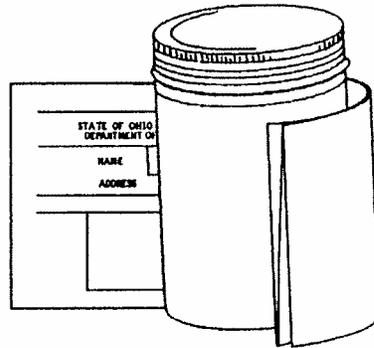


**8. FILL OUT THE LAB FORM COMPLETELY & ACCURATELY.....**

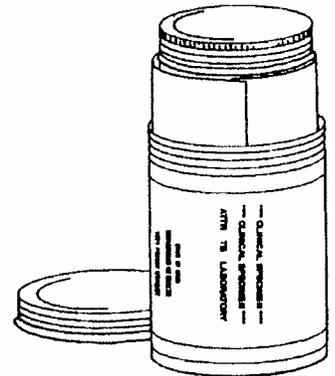
**CLINICS & HOSPITALS: PUT YOUR PHONE NUMBER ON THE SLIPS IN THE SPACE PROVIDED.....**



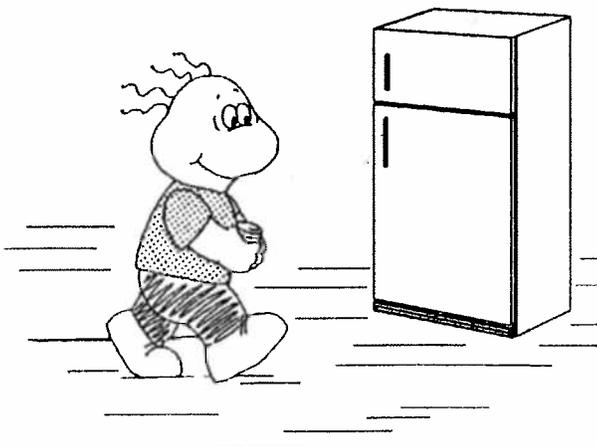
**9. PLACE THE PLASTIC CONTAINER INTO THE METAL CONTAINER.....**



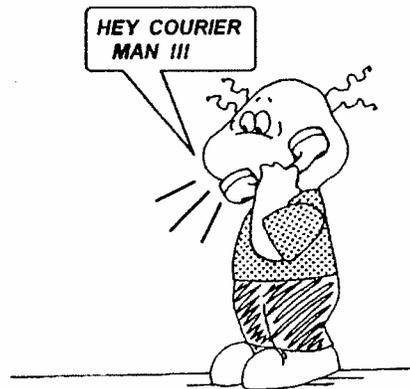
**10. PLACE THE LAB FORM AROUND THE METAL CONTAINER.....**



**11. PUT THE FORM AND THE METAL CONTAINER INTO THE CARDBOARD CONTAINER.....**



**12. PLACE THE PACKAGED SPECIMEN IN THE REFRIGERATOR.....**

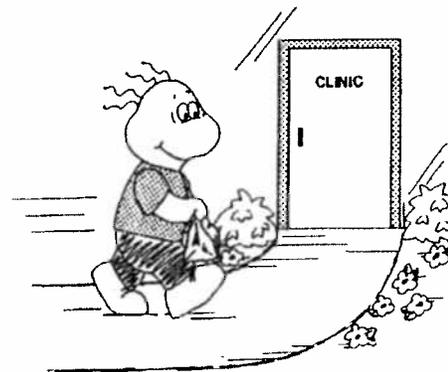


**13. YOU WILL BE INSTRUCTED TO:**

**CALL THE COURIER SERVICE.....**

**OR**

**TAKE THE SPECIMEN TO THE CLINIC FOR SHIPMENT.**





# Ohio Department of Health Laboratory

## Guidelines for Rabies Specimen Submission

### Laboratory Testing

The standard test for detecting rabies is a fluorescent antibody test on brain tissue. If the test is positive, it is assumed the saliva also contained virus and the animal was infectious for rabies. If the test is negative, rabies virus is considered not to have been in the saliva. Rabies specimens are processed Monday through Friday afternoons, and results are read the following workday morning. Results are then phoned to the submitter. Rabies samples should be addressed as below:

Ohio Department of Health Laboratory  
8995 E. Main Street  
Building 22 (ODHL)  
Reynoldsburg, Ohio 43068  
(614) 644-4654

Only rabies testing is done at Ohio Department of Health (ODH). If a diagnosis other than rabies is of interest, contact a veterinary pathology service such as The Ohio State University Veterinary School at (614) 292-5661 or the Ohio Department of Agriculture at (614) 728-6220. Often specimens can be sent to them first, and they will forward tissue to ODHL. These and/or other private labs may have their own fees.

### Appropriate Specimens

Live animals will not be accepted at the lab. Send only the head of animal to be tested. In the case of bats, mice and gerbils, the whole animal is suitable.

Tissue must be fresh. Do not submit maggot-infested or extremely decomposed specimens or specimens fixed in formalin.

### Specimen Preparation

Animals should be killed in a humane manner without damaging the skull. Only experienced persons or veterinarians with current rabies pre-exposure prophylaxis should perform decapitations of rabies-suspect animals. Water-repellent gloves, protective clothing and goggles should be worn for safety. Carcasses should be disposed of in accordance with local and state laws.

### Charge for Testing

There is a \$30 charge for pet and wild rodents including gerbils, hamsters, guinea pigs, mice, rabbits, rats, squirrels and chipmunks, shrews and moles. There is no charge for testing other animal species. Please make checks payable to "Treasurer, State of Ohio". Business entities should include their Federal Tax ID number on the check.

In counties where raccoon rabies is endemic, fee exemption may be requested for testing rabbits or wild rodents. This

will be considered only in situations where the rabbit or rodent has displayed clinical signs compatible with rabies and there has been a human exposure. Contact the ODH Zoonotic Disease Program at (888) 722-4371.

### Specimens Handling and Packaging

Animal heads or brain tissue should be kept refrigerated but not frozen. The specimen should be double bagged using heavy plastic and each bag should be properly sealed. Do not use metal twist ties. If the specimen has any sharp protruding parts such as shattered bone, wrap it in several layers of newspaper first. Place the bagged specimen in an insulated container and surround the specimen with frozen packs. If dry ice must be used, place aluminum foil or several layers of newspaper between it and the specimen to prevent freezing. If more than one animal of the same species is submitted in a container, each head should be bagged and tagged separately for identification. Seal container securely with tape.

A fully completed Rabies Test Submission Report must be included for each specimen submitted. If the form is submitted within the shipping container, be sure it is sealed in a separate waterproof bag in the event of leakage. If necessary, securely affix it in an envelope to the outside of the container.

### Shipping

Specimens should be either hand delivered, or sent by overnight courier service. Do not ship on Fridays or before holidays as there may be no one at the lab to accept delivery on weekends. Instead, hold the specimen until the following weekday.

Specimens can be delivered directly to the ODHL from 8 a.m. until 5 p.m. Monday through Friday. There is no after-hours or weekend access to the laboratory facility to drop off specimens.

### Emergency

For questions or an emergency testing situation, call the ODHL during business hours at (614) 644-4654. For reporting rabies suspect animals or animal bites, contact your local health department. The ODH Zoonotic Disease Program is also available to answer rabies exposure questions at (888) 722-4371 or (614) 752-1029. Additional information on rabies is available on the ODH Rabies Web site <http://www.odh.ohio.gov> or the Centers for Disease Control and Prevention at <http://www.cdc.gov>.



**Ohio Department of Health Laboratory  
Biothreat Environmental Sample Submission Form**

Ohio Department of Health Laboratory  
8995 East Main Street  
Building 22  
Reynoldsburg, OH 43068

Phone: 888-634-5227  
Fax: 614-387-1505  
Email: [odhlabs@odh.ohio.gov](mailto:odhlabs@odh.ohio.gov)  
CLIA Certification # 36D0655844

**Note:** Fields marked with an asterisk (\*) must be completed

**Section 1: Sample Information / Field Screening Results**

*Submitter Sample Identification #	*Collection Date	*Packaging Decontaminated Yes <input type="checkbox"/> No <input type="checkbox"/>
	*Collection Time	
*Local Health Department (LHD) Notified? Yes <input type="checkbox"/> No <input type="checkbox"/> FBI Notified? Yes <input type="checkbox"/> No <input type="checkbox"/> Postal Inspectors Notified? Yes <input type="checkbox"/> No <input type="checkbox"/>		
*Sample Description (Check all that apply and describe)		<u>Describe</u>
<input type="checkbox"/> Powder <input type="checkbox"/> Letter/Package <input type="checkbox"/> Other		
*Field-Screening Testing (Check all that apply)		
<input type="checkbox"/> X-Ray <input type="checkbox"/> Biological <input type="checkbox"/> Chemical <input type="checkbox"/> Explosives <input type="checkbox"/> No screening performed		
*Interpretation/Conclusion of Field-Screening Testing:		

**Section 2: Submitter Information and Reporting**

**[Local Health Department (LHD) must be identified and will receive result report; Law Enforcement Office will receive result report if information provided]**

A. Submitter <input type="checkbox"/> Local Health Department <input type="checkbox"/> Federal Bureau of Investigation <input type="checkbox"/> Ohio Highway Patrol <input type="checkbox"/> Local Law Enforcement Officer <input type="checkbox"/> US Postal Inspection Service <input type="checkbox"/> Other:					
B. *LHD Agency		*LHD Contact Name		LHD Address	
City	County	State	Zip	*Phone Number	*Fax Number
C. *Law Enforcement Office		*Law Enforcement Contact Name		Address	
City	County	State	Zip	*Phone Number	*Fax Number

**Section 3: General information**

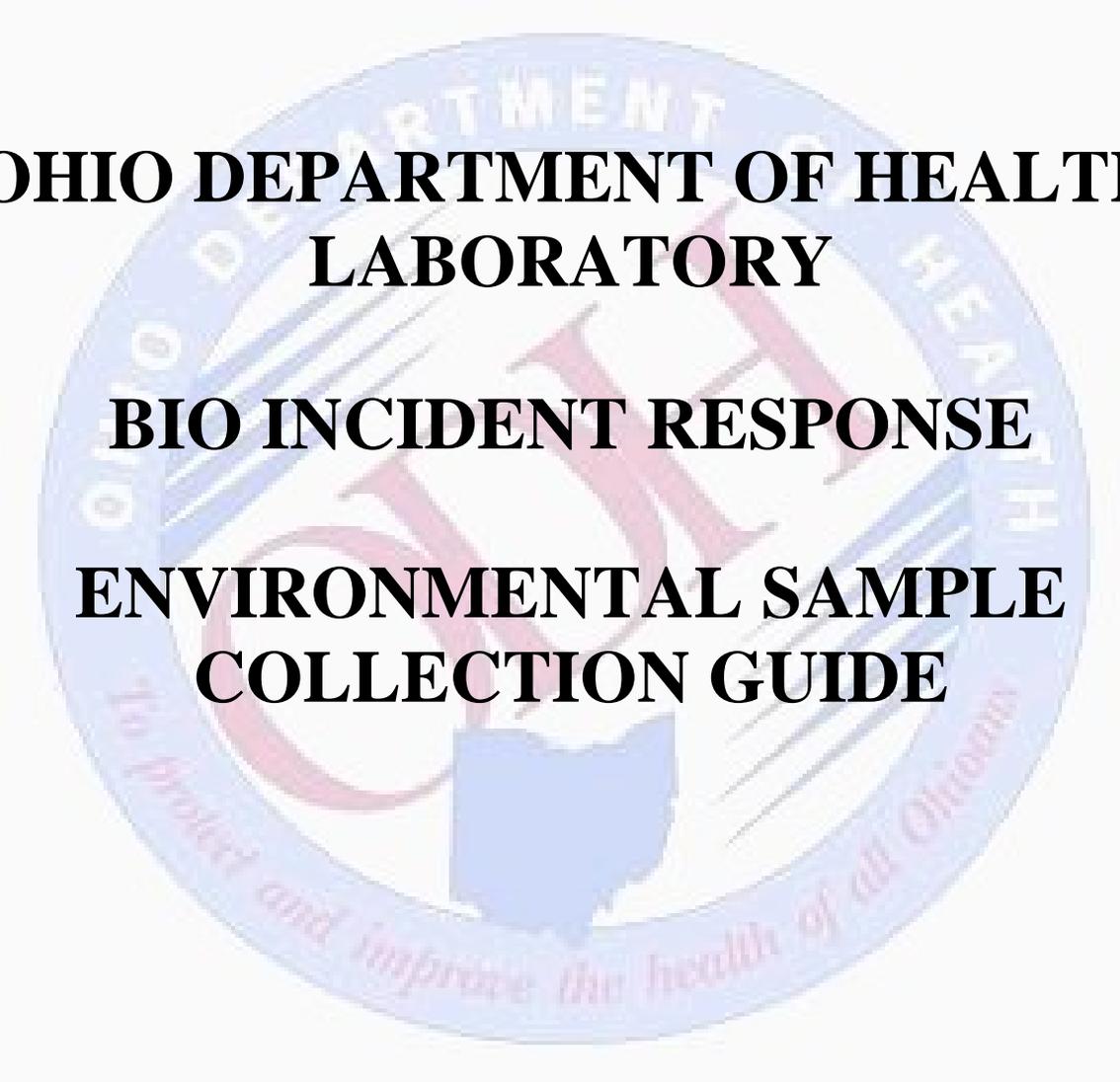
Comments	<b>For Use by the Ohio Department of Health Laboratory Only</b>	
	Date Received:	Date Reported:
	Billing: <input type="radio"/> Fee Due MI _____ <input type="radio"/> Exemption _____	

## **Ohio Department of Health Laboratory (ODHL) Environmental Sample Submission Form Instructions**

- Please print legibly.
- One HEA Environmental Form is required for each sample submitted to the ODHL. Refer to the ODHL BIO INCIDENT RESPONSE ENVIRONMENTAL SAMPLE COLLECTION GUIDE for information on sample requirements and restrictions.
- Each item marked with an asterisk (\*) is required information.
- Section 1: Sample Information / Field Screening Results
  - Individual test results are not required but rather what the testing indicates.
- Section 3: General information
  - Comments: Include additional information that would be relevant to the sample that has not been previously requested.

**Bio Threat Incident Environmental Sample Collection Guide**

**Sample Submission: Contact ODH – Outbreak Response and Bioterrorism Investigation Team (ORBIT) @ 614-722-7221 (24/7)  
Sample Questions: 1-888-ODH-LABS (8:00am to 5:00pm) Monday - Friday**

The seal of the Ohio Department of Health is a circular emblem. It features a central map of Ohio in blue, with a red caduceus (a staff with two snakes) superimposed over it. The words "OHIO DEPARTMENT OF HEALTH" are written in a circular path around the top of the seal. At the bottom, the motto "To protect and improve the health of all Ohioans" is written in a smaller font.

**OHIO DEPARTMENT OF HEALTH  
LABORATORY  
BIO INCIDENT RESPONSE  
ENVIRONMENTAL SAMPLE  
COLLECTION GUIDE**

**Bio Threat Incident Environmental Sample Collection Guide**

**Sample Submission: Contact ODH – Outbreak Response and Bioterrorism Investigation Team (ORBIT) @ 614-722-7221 (24/7)  
Sample Questions: 1-888-ODH-LABS (8:00am to 5:00pm) Monday - Friday**

## **General Information and Instructions**

- 1. General:** The methods presented below are generally accepted methods described by the CDC and others for the collection and submission of environmental samples for the presence of biothreat (BT) agents. Additional reference materials<sup>A,B,C</sup> have been published since this document was first introduced. These documents have been reviewed and determined to be compatible with the information found in this Guide. With exceptions noted, the efficiencies of these methods for all possible BT agents have not been scientifically validated and published. The informational Guide will be updated as additional validated BT environmental sample collection methods become available. At this time the CDC LRN refers to ASTM Document E2458-10 for collection and submission of 'white-powder samples' as a validated guideline.
  
- 2. Communication:** Prior to transporting an environmental sample to the Ohio Department of Health Laboratory (ODHL) for testing, contact ODH ORBIT at the number listed above. This communication is necessary to assure appropriate samples are collected and to assure the appropriate public health response can be implemented in the most time-efficient method in the event of a real dispersal of a BT agent. Typically, the Federal Bureau of Investigation (FBI), local public safety or local public health should be notified prior to contacting the ODH or to submitting or transporting a sample to the ODHL. Items discovered within the US Mail system may be investigated by the FBI or the US Postal Inspection Service.
  
- 3. Field Screening:** Local health and / or law enforcement are responsible for assuring the appropriate screening takes place prior to delivery of samples to the ODHL as follows:
  - a. X-ray or other screening for explosive devices if package is unopened.
  - b. Screening for radioactivity.
  - c. Other screening as deemed necessary and appropriate for the safety of all individuals involved in sample collection, transport and receiving.
  - d. Document all field screening test procedures performed on the ODHL Biothreat Environmental Sample Submission form. The local first responder report form can be attached to the ODHL submission form.
  
- 4. Sample Size:**
  - a. Objects larger than 8.5" x11" x 3" may NOT be accepted by the ODHL due to limited space to safely handle such objects. More importantly, large objects cannot be safely packaged and transported. Attempting to package and transport large items may create a hazardous situation for the persons transporting and receiving these items.

**Bio Threat Incident Environmental Sample Collection Guide**

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- b. Refer to appropriate methods and types for specific information on sample size. Utilize one of the sample collection methods listed to sample large objects. Examples of such objects: chairs, computer key boards, shipping containers.

**5. Sample Integrity:** It is extremely important to make efforts to prevent cross-contamination of subsequent samples especially in situations where multiple samples are to be collected.

- a. Change gloves after handling each sample.
- b. Over-glove: Use a second pair of gloves over the first pair. This facilitates frequent changing of gloves as well as providing an extra-measure of protection.

**6. Sample Labeling:**

- a. Sample labeling can be accomplished by applying tape to the primary container (preferred) or marking the primary container with a marker.
- b. When a wetting solution has been used, e.g., swab or wipes, it is important to note on the primary container the type of wetting solution used.
- c. If multiple samples are collected, indicate a unique identifier on each primary container. Make a listing of each sample cross-referencing the unique identifier.

**7. Secondary and Containment Packaging:** At a minimum - double bag using 'zip-lock' type bags. Garbage bags are NOT satisfactory secondary or containment packaging.

- a. Place primary container into a secondary 'zip-lock' type bag taking care to minimize or prevent contamination to the outside of this bag;
- b. Change gloves or over-glove with a fresh pair of gloves handling next pair of gloves by the cuff;
- c. Seal secondary bag;
- d. Place secondary bag into a containment 'zip-lock' type bag and seal.
- e. Change gloves or over-glove.

**8. Decontamination:** Decontaminate the containment or outer most bag using:

- a. Freshly prepared bleach / white vinegar solution ( 1 part bleach, 1 part white vinegar, 8 parts water);
- b. Acceptable Alternative: Freshly prepared 10% bleach - aqueous solution

### **Bio Threat Incident Environmental Sample Collection Guide**

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(can be prepared by adding 1 part bleach to 9 parts water);

- c. Commercially available chlorine-based product, such as bleach-wipes;
- d. Other commercially available products rated as sporicidal, bactericidal and viricidal; if not rated, use 10% bleach;
- e. Bleach-based decontaminants are recommended since bleach will also inactivate toxins, such as Ricin.
- f. Most decontamination products do not work immediately and require contact time. If using bleach solutions, assure a contact time of 30 minutes. Extend contact time to 60 minutes if significantly contaminated; this may require re-wetting of the surface multiple times. If using commercially available product, follow manufacturers instructions for application and contact time. It is not necessary to wipe off the bleach unless the contact time has been reached and the containment bag is still saturated. Indicate method of decontamination in the appropriate section of the ODHL Biothreat Environmental Sample Submission Form.

#### **9. Storage and Transport:**

- a. Letters, packages, etc., suspected of containing a powder or oily residues, can be transported at ambient temperature.
- b. All other sample types: Refrigerate @ 2-8°C; a cooler with freezer packs is sufficient; Do Not Freeze.

#### **10. Environmental Sample Submission Form:**

- a. Complete the ODHL Biothreat Environmental Sample Submission Form.
- b. Provide all information requested on the form.
- c. A copy of the submission form can be obtained from ORBIT or ODHL by fax or request additional copies when visiting the lab.

#### **11. Environmental Sample Collection Method Notes:**

- a. Primary Container: Item used to collect suspect material; Secondary Container: Item, e.g., 'zip-lock' type bag used to hold the primary container; Containment: Item' e.g., 'zip-lock' type bag, used to transport the primary / secondary containers.
- b. It is critically important to submit as much powder / material available, up to the stated limits, to maximize the opportunity to detect an agent if present. In the event minimal material is detected, collect an additional surface sample. For instance, upon opening an envelope, an individual detects an unexpected but minimal amount of powder. The surface area (desk, counter-top) immediately below the work area should be sampled per procedures described above and submitted in addition to the letter / envelope.

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- c. Materials: General neutralizing buffer that will inactivate halogen disinfectants and quaternary ammonium compounds, such as Neutralizing Buffer [Hardy Diagnostics catalog number K105] or an alternative like; PBST = Phosphate Buffered Saline with 0.02% Tween 80; PBS = Phosphate Buffered Saline; Normal or physiological saline (0.85% saline) is also acceptable but not optimal alternative but can be used if required.

**12. References and Additional Information:**

<sup>A</sup>Standard Practices for Bulk Sample Collection and Swab Sample Collection of Visible Powders Suspected of Being Biothreat Agents from Nonporous Surfaces, ASTM Document E2458-10, <http://www.astm.org/index.shtml>.

<sup>B</sup>Guidance on Initial Responses to a Suspicious Letter / Container With a Potential Biological Threat, FBI, DHS, HHS/CDC Coordinated Document, 2004, <http://www.bt.cdc.gov/planning/pdf/suspicious-package-biothreat.pdf>.

<sup>C</sup>Standardized Analytical Methods for Environmental Restoration Following Homeland Security Events–SAM 2010 (Revision 6.0), US EPA, EPA/600/R-10/122 October 2010, <http://www.epa.gov/sam/>

<sup>D</sup>Protecting Investigators Performing Environmental Sampling for *Bacillus anthracis*: Personal Protective Equipment, [www.bt.cdc.gov](http://www.bt.cdc.gov).

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<b><u>Type or Method</u></b>	<b><u>Use For</u></b>	<b><u>Primary Container</u></b>
<p><b>Swab</b></p> <ul style="list-style-type: none"> <li>• Wet (but do not saturate) a sterile swab; Preferred wetting agent – General neutralizing buffer, alternatively use sterile PBST or PBS.</li> <li>• In general, avoid use of water - creates a hypotonic environment that can be detrimental to some bacterial agents.</li> <li>• Use sterile water to collect an additional sample if testing for toxin is indicated.</li> </ul>	<ul style="list-style-type: none"> <li>• Sampling small, hard to reach areas, up to 4 sq. in.</li> <li>• Non-porous surfaces.</li> <li>• Minimal powder / material present or visible.</li> <li>• Indicate size of area sampled on sample submission form</li> </ul>	<ul style="list-style-type: none"> <li>• Sterile, 15- to 50-ml, <u>polypropylene</u> screw-cap tubes.</li> <li>• Sterile water should NOT be stored in glass containers. Sterile containers made of polypropylene are recommended.</li> </ul>
<p><b>Cellulose Sponge Material</b></p> <ul style="list-style-type: none"> <li>• Wet (but do not saturate) Sponge (like 3M sponge stick); Preferred wetting agent – General neutralizing buffer, alternatively use sterile PBST or PBS.</li> <li>• In general, avoid use of water - creates a hypotonic environment that can be detrimental to some bacterial agents.</li> <li>• Use sterile water to collect an additional sample if testing for toxin is indicated.</li> </ul>	<ul style="list-style-type: none"> <li>• Sampling large areas, Up to 100 sq. in.</li> <li>• Non-porous surfaces.</li> <li>• Minimal powder / material present or visible.</li> <li>• Indicate size of area sampled on sample submission form</li> </ul>	<ul style="list-style-type: none"> <li>• Sterile, <u>polypropylene</u> wide-mouth screw-cap sample container, minimum 4 oz. capacity.</li> </ul>

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<b><u>Type or Method</u></b>	<b><u>Use For</u></b>	<b><u>Primary Container</u></b>
<p><b>Gauze Material</b></p> <ul style="list-style-type: none"> <li>Wet (but do not saturate) a sterile 2"x2" or 3"x3" non-cotton gauze pad; Preferred wetting agent – General neutralizing buffer, alternatively use sterile PBST or PBS.</li> <li>In general, avoid use of water - creates a hypotonic environment that can be inhibitory to some bacterial agents.</li> <li>Use sterile water to collect an additional sample if testing for toxin is indicated.</li> </ul>	<ul style="list-style-type: none"> <li>Sampling large areas, up to 144 sq. in./1 sq meter</li> <li>Non-porous surfaces.</li> <li>Minimal powder / material present or visible.</li> <li>Indicate size of area sampled on sample submission form</li> </ul>	<ul style="list-style-type: none"> <li>Sterile, <u>polypropylene</u> wide-mouth screw-cap sample container, minimum 4 oz. capacity.</li> </ul>
<p><b>HEPA Filter</b></p> <ul style="list-style-type: none"> <li>HEPA (High Efficiency Particulate Air) vacuums fitted with HEPA-vacuum socks.</li> </ul>	<ul style="list-style-type: none"> <li>Very large areas and / or extensive sampling.</li> <li>Porous surfaces, e.g., carpet, and ceiling tile.</li> </ul>	<ul style="list-style-type: none"> <li>Sterile, <u>polypropylene</u> wide-mouth screw-cap sample container, minimum 4 oz. capacity.</li> </ul>

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<b><u>Type or Method</u></b>	<b><u>Use For</u></b>	<b><u>Primary Container</u></b>
<p><b>Bulk Sampling -</b></p> <ul style="list-style-type: none"> <li>Collect 5-grams of dry material. Use a disposable spoon for collecting and placing material into a primary container.</li> <li>Collect 500 to 1000 ml of liquid material. Use a sterile primary container to collect the</li> <li>Sample and transfer to a second primary container. Do not submit a primary container that has been submerged into the suspect liquid.</li> </ul>	<ul style="list-style-type: none"> <li>Collection of bulk materials, e.g., powders, dusts, soils, liquids.</li> </ul>	<ul style="list-style-type: none"> <li>Two sterile, 50-ml, <u>polypropylene</u> screw-cap tubes.</li> <li>Sterile, <u>polypropylene</u> wide-mouth screw-cap sample container, minimum 4 oz. capacity.</li> <li>Delivery container, such as, a clean 1-gallon milk container or sufficiently large zip-lock type sample bag.</li> </ul>
<p><b>Letters, Envelopes and Packages</b></p> <ul style="list-style-type: none"> <li>Letters, envelopes and packages containing powder or demonstrating oily-residues or uncharacteristic smudges.</li> </ul>	<ul style="list-style-type: none"> <li>Letters, envelopes, packages.</li> </ul>	<ul style="list-style-type: none"> <li>Envelope or package used as delivery device.</li> </ul>

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<ul style="list-style-type: none"><li>• Air samples: Numerous air sampling devices are designed, commercially available and generally accepted for sampling air.</li><li>• The ODHL accepts the following types:<ul style="list-style-type: none"><li>○ Sample collected on a filter, appropriate filter size: 0.8-<math>\mu</math>m</li><li>○ Samples collected in a sterile fluid.</li></ul></li></ul>	<ul style="list-style-type: none"><li>• Collection of air samples.</li></ul>	<ul style="list-style-type: none"><li>• Sterile, 15- to 50-ml, <u>polypropylene</u> screw-cap tubes.</li><li>• Sterile, <u>polypropylene</u> wide-mouth screw-cap sample container, minimum 4 oz. capacity.</li><li>• Filters: Aseptically transfer the filter to a Primary Container; do not wet unless instructed by the manufacturer of the device.</li><li>• Liquids: Seal and submit the liquid collection container.</li></ul>
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# Orthopoxvirus Clinical Specimen Collection and Transport Guideline

1. **Purpose:** This document is intended to be a guide for the collection and shipment of clinical specimens when there is need to rule in/rule-out suspect cases of smallpox, or smallpox vaccine (vaccinia) adverse events, or other orthopoxvirus infections (e.g., monkeypox).
2. **Acute generalized vesicular or pustular rash illness:** The Ohio Department of Health Laboratory (ODHL) tests clinical specimens following the Acute, Generalized Vesicular or Pustular Rash Illness Testing Protocol in the United States.<sup>6.1</sup> The algorithm can be found at <http://www.bt.cdc.gov/agent/smallpox/diagnosis/rashtestingprotocol.asp>.

If your laboratory performs testing for illnesses presenting as an acute generalized vesicular or pustular rash illness, e.g., Varicella-Zoster and Herpes, please provide a copy of those results when submitting specimens to the ODHL.

3. **Notification:** Prior to submitting specimens to rule-in/rule-out an orthopox virus infection, contact the appropriate local health jurisdiction to arrange a consultation with the ODH, Outbreak Response and Bioterrorism Team epidemiologists.
4. **Recommended Specimen Collection Precautions:** Only recently, successfully vaccinated personnel (within 3 years) wearing appropriate barrier protection (gloves, gown, and shoe covers) should be involved in specimen collection for suspected cases of smallpox. Respiratory protection is not needed for personnel with recent, successful vaccination. Masks and eyewear or face shields should be used if splashing is anticipated. If unvaccinated personnel must be utilized to collect specimens, only those without contraindications to vaccination should be utilized as they would require immediate vaccination if the diagnosis of smallpox is confirmed. Fit-tested N95 masks should be worn by unvaccinated individuals caring for suspected patients<sup>6.2</sup>.

## 5. Specimen Collection

- 5.1. Submit 2 specimens for testing.
  - 5.1.1. Specimens can be of Specimen Type 1 only, Specimen Type 2 only or Specimen Type 3 only.
  - 5.1.2. Alternatively, any combination of the above listed specimen types is acceptable as long as 2 specimens are submitted. This may be necessary due to the stage of disease and condition and number of lesions available to be sampled.
  - 5.1.3. Specimen Types 1, 2, and 3 are for performing PCR testing for Variola, Vaccinia, and or other orthopox virus (e.g., Monkeypox) at ODHL.
  - 5.1.4. If an orthopox virus detected, submitter may be requested to collect additional specimens for confirmatory testing (see 5.5. below).
- 5.2. Specimen Type 1 - Scabs:
  - 5.2.1. Aseptically un-roof and remove 2–4 scabs using a sterile 26-gauge needle.

- 5.2.2. Place 1 to 2 scabs in each of two (2) sterile, dry screw cap vials or tubes; tighten and secure caps with parafilm.
  - 5.2.3. Label each container, Specimen Type 1 (Scab), patient name, date collected and any other identifiers deemed appropriate by the submitter.
  - 5.2.4. Place in a biohazardous specimen transport bag.
  - 5.2.5. Ship via overnight delivery at 4°C (frozen freeze packs) to the ODHL; if transport is longer than 24 hours, freeze and ship on dry ice.
- 5.3. Specimen Type 2 - Vesicular Material - Air Dried on Microscope Slides:
- 5.3.1. Aseptically open the top of a vesicle or pustule with a scalpel or 26-gauge needle.
  - 5.3.2. Place the skin of the vesicle in a dry screw cap vial or tube; tighten and secure caps with parafilm.
  - 5.3.3. Scrape the base of the vesicle with the wooden end of an applicator stick or Dacron swab removing cellular material from the base of a lesion.
  - 5.3.4. Smear collected material onto a glass microscope slide making sure the areas where material is applied are visible. If areas are not visible, mark the underside of the slide using a wax pencil to indicate the location of the material.
  - 5.3.5. Allow slide to air dry. DO NOT FIX THE SLIDE.
  - 5.3.6. Label the vial and/or slide SPECIMEN 2 (Vesicular Material), patient name, date collected and any other identifiers deemed appropriate by the submitter.
  - 5.3.7. Place slides in a slide holder and place slide holder inside a biohazardous specimen transport bag.
  - 5.3.8. Ship via overnight delivery at 4°C (frozen freeze packs) to the ODHL.
- 5.4. Specimen Type 3 - Vesicular Fluid - Air Dried on Microscope Slides (Touch Prep):
- 5.4.1. Aseptically open the top of a vesicle or pustule with a scalpel or 26-gauge needle.
  - 5.4.2. Prepare a touch-prep using a glass microscope slide by progressively touching the slide to an open lesion at least 3 times using a clean portion of the slide each time.
  - 5.4.3. Allow slide to air dry. DO NOT FIX THE SLIDE.
  - 5.4.4. Label the slide SPECIMEN 3 (Touch Prep), patient name, date collected and any other identifiers deemed appropriate by the submitter.
  - 5.4.5. Place slides in a slide holder and place slide holder inside a biohazardous specimen transport bag.
  - 5.4.6. Ship via overnight delivery at 4°C (frozen freeze packs) to the ODHL.
- 5.5. Confirmatory Testing and Specimen Types.
- 5.5.1. Electron Microscopy (EM): Any of the following specimens may be submitted for EM confirmatory testing:
    - 5.5.1.1. Vesicular fluid, air-dried on EM grid (see 5.4. above for touch-prep instructions)

- 5.5.1.2. Vesicular fluid, air-dried smears on glass slides (see 5.4. above for touch-prep instructions)
- 5.5.1.3. Scabs / Crusts (see 5.4. above for instructions)

5.6. This document is not a complete listing of all possible combinations of types of specimens, storage and transport conditions. Occasionally, the situation may arise, requiring additional or different specimen types. When necessary, specific instructions will be provided by the experts at the Centers for Disease Control and Prevention or the Ohio Department of Health.

## 6. References:

- 6.1. CDC Smallpox Testing Algorithm:  
<http://www.bt.cdc.gov/agent/smallpox/diagnosis/rashtestingprotocol.asp>
- 6.2. CDC Smallpox Preparedness Plan, Specimen Collection and Transport, Guide D:  
<http://www.bt.cdc.gov/agent/smallpox/response-plan/files/guide-d.pdf>
- 6.3. CDC Orthopox Specimen Collection Guidelines:  
<http://www.bt.cdc.gov/agent/smallpox/vaccination/vaccinia-specimen-collection.asp>
- 6.4. CDC Smallpox Vaccine Website:  
<http://www.bt.cdc.gov/agent/smallpox/vaccination/>
- 6.5. CDC Emergency Response and Preparedness Smallpox Laboratory Testing Website:  
<http://www.bt.cdc.gov/agent/smallpox/lab-testing/>
- 6.6. SENTINAL LEVEL CLINICAL MICROBIOLOGY LABORATORY GUIDELINES FOR SUSPECTED AGENTS OF BIOTERRORISM AND EMERGING INFECTIOUS DISEASES, UNKNOWN VIRUSES, American Society for Microbiology, Final 10/10/03  
<http://www.asm.org/images/pdf/Clinical/Protocols/unv9-4-03.pdf>

## Ohio Department of Health Laboratory Clinical Specimen Collection and Transport Guideline

Disease / Agent	Specimen		Transport & Storage	Comments/Recommendations
Anthrax / <i>Bacillus anthracis</i>	Isolate	Pure culture on agar slant	20-25°C	Indicate rule-out <i>Bacillus anthracis</i> .
	Cutaneous	Vesicular Stage	20-25°C	Collect fluid from intact, previously unopened, vesicles on two (2) sterile swab(s); Perform culture following ASM Sentinel Laboratory Guidelines ( <a href="http://www.asm.org/index.php/public-policy/issues/sentinel-laboratory-guidelines">http://www.asm.org/index.php/public-policy/issues/sentinel-laboratory-guidelines</a> ); Send second swab to ODHL for PCR. Note - The anthrax bacilli are most likely to be seen by Gram stain in the vesicular stage.
		Eschar Stage	20-25°C	Collect two (2) swab eschar material specimens as follows: Insert swab moistened in sterile saline beneath the edge of eschar, rotate for 2-3 seconds); Perform culture following ASM Sentinel Laboratory Guidelines ( <a href="http://www.asm.org/index.php/public-policy/issues/sentinel-laboratory-guidelines">http://www.asm.org/index.php/public-policy/issues/sentinel-laboratory-guidelines</a> ); Send second swab to ODHL for PCR.
		Vesicular or Eschar Stage: Punch biopsy	20-25°C	Collect as advised by ORBIT; Performed at CDC; ODH ORBIT and ODHL will provide guidance on submission to CDC; Collect 2 punch biopsies - Place one biopsy specimen in 10% formalin - submit for histopathology, immunohistochemical staining, PCR; Place one biopsy specimen in an anaerobic transport vial and submit for culture to the ODHL.
	Gastrointestinal	Stool	20-25°C	Culture following ASM Sentinel Laboratory Guidelines; Submit to ODHL only as advised by ODH ORBIT; Refer to ODHL 'Stool Specimen Collection and Transport Guideline'.

## Ohio Department of Health Laboratory Clinical Specimen Collection and Transport Guideline

Disease / Agent	Specimen		Transport & Storage	Comments/Recommendations
Anthrax / <i>Bacillus anthracis</i> (continued)	Inhalational	Sputum	2-8°C	Typically minimal recovery; Culture following ASM Sentinel Laboratory Guidelines; Submit to ODHL only as advised by ODH ORBIT; Collect specimen into sterile, leak-proof container.
		Pleural fluid	2-8°C	Save excess (if any) for PCR; Culture following ASM Sentinel Laboratory Guidelines; Submit to ODHL only as advised by ODH ORBIT; Collect specimen into sterile, leak-proof container.
	Meningitis	Cerebrospinal fluid culture	20-25°C	Aseptically collect CSF per institutional procedure; Culture following ASM Sentinel Laboratory Guidelines; May be seen in late stages of disease; consider adding broth medium such as brain heart infusion; Submit to ODHL only as advised by ODH ORBIT; Collect specimen into sterile, leak-proof container.
	All Disease Presentations	Blood (Culture)	20-25°C	Collect per institutional procedure for routine blood cultures; Culture following ASM Sentinel Laboratory Guidelines; Positive in late stages of disease presentations; Submit to ODHL only as advised by ODH ORBIT.
		Blood (PCR)	2-8°C	Lavender Top (Whole Blood); Submit to ODHL only as advised by ODH ORBIT.
		Serum	-20 to -70°C On Dry Ice	Acute and convalescent serum 14 days apart; Serum (Tiger-top, red-top, or gold-top tube) – PCR; Submit to ODHL only as advised by ODH ORBIT.

## Ohio Department of Health Laboratory Clinical Specimen Collection and Transport Guideline

Disease / Agent	Specimen		Transport & Storage	Comments/Recommendations
Melioidosis & Glanders / <i>Burkholderia pseudomallei</i> & <i>Burkholderia mallei</i>	Isolate	Pure culture on agar slant	20-25°C	Indicate rule-out <i>Burkholderia mallei</i> or <i>Burkholderia pseudomallei</i> .
	All Disease Presentations	Bone Marrow, respiratory specimens, abscess material, wound specimens, urine	20-25°C	Collect per institution's procedures - consider collecting respiratory specimens under isolation/containment circumstances, i.e., isolation chamber/"bubble" ; Culture following ASM Sentinel Laboratory Guidelines; Submit to ODHL only as advised by ODH ORBIT.
		Blood (Culture)	20-25°C	Collect per institutional procedure for routine blood cultures; Culture following ASM Sentinel Laboratory Guidelines; Submit to ODHL only as advised by ODH ORBIT.
		Blood (PCR)	2-8°C	Lavender Top (Whole Blood); Submit to ODHL only as advised by ODH ORBIT.
		Serum (serology & PCR)	-20°C or 2-8°C	Collect 10-12 mL of acute-phase specimen as soon as possible after disease onset. Follow with a convalescent-phase specimen at $\geq 14$ days; **Transfer specimen to microcentrifuge tube with O-ring to freeze and transport on Dry Ice**; Serology available for diagnosis of <i>B. pseudomallei</i> infection only; Submit to ODHL only as advised by ORBIT.

## Ohio Department of Health Laboratory Clinical Specimen Collection and Transport Guideline

Disease / Agent	Specimen		Transport & Storage	Comments/Recommendations
Brucellosis / <i>Brucella abortus</i> <i>Brucella melitensis</i> <i>Brucella suis</i>	Isolate	Pure culture on agar slant	20-25°C	Indicate rule-out <i>Brucella</i> species.
	Acute, sub-acute, or chronic	Serum (serology)	-20°C On Dry Ice** or 2-8°C	Collect 10-12 cc (ml) of acute-phase specimen as soon as possible after disease onset. Follow with a convalescent-phase specimen at > 14 days; Transfer specimen to microcentrifuge tube with O-ring to freeze and transport; <i>Brucella</i> Microagglutination Test (BMAT) - performed at the CDC; Submit to ODHL only as advised by ORBIT.
		Blood (culture)	20-25°C	Collect per institutional procedure for routine blood cultures; Blood culture isolation rates vary from 15-70% depending on methods and length of incubation; manipulate cultures utilizing a biological safety cabinet and personal protective equipment such as, gloves, gown, mask, and protective face-shield; Culture following ASM Sentinel Laboratory Guidelines; Submit to ODHL only as advised by ORBIT.
		Bone marrow, spleen, or liver	20-25°C	Collect per institution's surgical/pathology procedures; Manipulate cultures utilizing a biological safety cabinet utilizing personal protective equipment such as, gloves, gown, mask, and protective face-shield; Culture following ASM Sentinel Laboratory Guidelines; Submit to ODHL only as advised by ORBIT.
	Meningitis	Cerebrospinal fluid: culture	20-25°C	Aseptically collect CSF per institutional procedure; Culture following ASM Sentinel Laboratory Guidelines; Consider adding broth medium such as brain heart infusion; Collect specimen into sterile, leak-proof container; Submit to ODHL only as advised by ORBIT.

## Ohio Department of Health Laboratory Clinical Specimen Collection and Transport Guideline

Disease / Agent	Specimen		Transport & Storage	Comments/Recommendations
<i>Brucella abortus</i> <i>Brucella melitensis</i> <i>Brucella suis</i> (continued)	Meningitis	Cerebrospinal fluid : Antibody testing	-20°C	Aseptically collect CSF per institutional procedure; Specimen should be stored and shipped frozen; Submit to ODHL only as advised by ORBIT.
	All Disease Presentations	Serum (PCR)	-20 to -70°C On Dry Ice	Serum (Tiger-top, red-top, or gold-top tube) – PCR; **Transfer specimen to microcentrifuge tube with O-ring to freeze and transport at 20-25°C (preferred) on dry ice - otherwise transport at 2-8°C; Submit to ODHL only as advised by ORBIT.
		Blood (PCR)	2-8°C	Lavender Top (Whole Blood); Submit to ODHL only as advised by ORBIT.

## Ohio Department of Health Laboratory Clinical Specimen Collection and Transport Guideline

Disease / Agent	Specimen		Transport & Storage	Comments/Recommendations
Tularemia / <i>Francisella tularensis</i>	Isolate	Pure culture on agar slant	20-25°C	Indicate rule-out <i>Francisella tularensis</i> .
	Oculo-glandular	Conjunctival scraping	2-8°C	Collect using a swab per institution's procedures; Manipulate cultures in a biological safety cabinet utilizing personal protective equipment such as, gloves, gown, mask, and protective face-shield; Culture following ASM Sentinel Laboratory Guidelines; Submit to ODHL only as advised by ORBIT.
		Lymph node aspirate	2-8°C	Flushing with 1.0 ml of sterile saline may be needed to obtain material; Culture following ASM Sentinel Laboratory Guidelines; Submit to ODHL only as advised by ORBIT.
	Ulceroglandular	Ulcer or Tissue	2-8°C	Collect biopsy (best specimen), scraping, or swab per institution's procedures; Manipulate cultures in a biological safety cabinet utilizing personal protective equipment such as, gloves, gown, mask, and protective face-shield; Culture following ASM Sentinel Laboratory Guidelines; Submit to ODHL only as advised by ORBIT.
		Lymph node aspirate	2-8°C	Flushing with 1.0 ml of sterile saline may be needed to obtain material; Culture following ASM Sentinel Laboratory Guidelines; Submit to ODHL only as advised by ORBIT.

## Ohio Department of Health Laboratory Clinical Specimen Collection and Transport Guideline

Disease / Agent	Specimen		Transport & Storage	Comments/Recommendations
Tularemia / <i>Francisella tularensis</i> (continued)	Pneumonic	Throat	2-8°C	Collect routine throat culture using a swab collected into a sterile, leak-proof container; Culture following ASM Sentinel Laboratory Guidelines; Submit to ODHL only as advised by ORBIT.
		Sputum / Bronchial Wash / Tracheal Wash	2-8°C	Collect per institution's procedure in an area dedicated to collecting respiratory specimens under isolation/containment circumstances, i.e., isolation chamber/"bubble"; Culture following ASM Sentinel Laboratory Guidelines; Submit to ODHL only as advised by ORBIT.
	All Disease Presentations	Blood (culture)	20-25°C	Collect per institutional procedure for routine blood cultures; Culture following ASM Sentinel Laboratory Guidelines; Positive in late stages of disease presentations; Submit to ODHL only as advised by ORBIT.
		Serum	-20 to -70°C On Dry Ice	Serum (Tiger-top, red-top, or gold-top tube) – PCR; Submit to ODHL only as advised by ORBIT.
		Blood (PCR)	2-8°C	Lavender Top (Whole Blood); Submit to ODHL only as advised by ORBIT.

## Ohio Department of Health Laboratory Clinical Specimen Collection and Transport Guideline

Disease / Agent	Specimen		Transport & Storage	Comments/Recommendations
Plague  / <i>Yersinia pestis</i>	Isolate	Pure culture on agar slant	20-25°C	Indicate rule-out <i>Yersinia pestis</i> .
	Bubonic	Lymph node (bubo) aspirate	2-8°C	Flushing with 1.0 ml of sterile saline may be needed to obtain material; Submit to ODHL only as advised by ORBIT.
		Tissue	2-8°C	Collect in sterile container with 1 to 2 drops of sterile, non-bacteriostatic saline; Submit to ODHL only as advised by ORBIT.
	Pneumonic	Throat	2-8°C	Collect routine throat culture using a swab collected into a sterile, leak-proof container; Culture following ASM Sentinel Laboratory Guidelines; Submit to ODHL only as advised by ORBIT.
		Sputum / Bronchial Wash / Tracheal Wash	2-8°C	Collect per institution's procedure in an area dedicated to collecting respiratory specimens under isolation/containment circumstances, i.e., isolation chamber/"bubble"; Culture following ASM Sentinel Laboratory Guidelines; Submit to ODHL only as advised by ORBIT.

## Ohio Department of Health Laboratory Clinical Specimen Collection and Transport Guideline

Disease / Agent	Specimen		Transport & Storage	Comments/Recommendations
Plague / <i>Yersinia pestis</i> (continued)	Meningitis	Cerebrospinal fluid (culture)	20-25°C	Aseptically collect CSF per institutional procedure; Culture following ASM Sentinel Laboratory Guidelines; Collect specimen into sterile, leak-proof container; Submit to ODHL only as advised by ORBIT.
	All Disease Presentations	Blood (culture)	20-25°C	Collect per institutional procedure for routine blood cultures; Culture following ASM Sentinel Laboratory Guidelines; Positive in late stages of disease presentations; Submit to ODHL only as advised by ORBIT.
		Blood (PCR)	2-8°C	Lavender Top (Whole Blood); Submit to ODHL only as advised by ORBIT.
		Serum (PCR)	-20 to -70°C** or 2-8°C	Serum (Tiger-top, red-top, or gold-top tube) – PCR; **Transfer specimen to microcentrifuge tube with O-ring to freeze and transport (preferred) on dry ice; otherwise transport at 2-8°C; Submit to ODHL only as advised by ORBIT.

## Ohio Department of Health Laboratory Clinical Specimen Collection and Transport Guideline

Q Fever / <i>Coxiella burnetii</i>	All Disease Presentations	Blood (PCR)	2-8°C	Collect blood in EDTA (lavender) or sodium citrate (blue); Collect specimens prior to antimicrobial therapy preferred; <b>Do not attempt tissue culture isolation</b> , as that could result in a very unsafe situation in which there is a significant amount of infectious organism; Submit to ODHL only as advised by ORBIT.
		Serum (Serology & PCR)	-20 to -70°C** or 2-8°C	Collect 10-12 mL of acute-phase specimen as soon as possible after disease onset. Follow with a convalescent-phase specimen at $\geq 14$ days; <b>**Transfer specimen to microcentrifuge tube with O-ring to freeze and transport (preferred) on dry ice; otherwise transport at 2-8°C;</b> Submit to ODHL only as advised by ORBIT.

# OHIO DEPARTMENT OF HEALTH LABORATORY PRICE LIST

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MI111000	Identification/Confirmation* (Isolate & Broth)	\$ 30.00
MI111000	Shiga Toxin-producing <i>Escherichia coli</i>	\$ 30.00
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