## LABORATORY SERVICES BUREAU

## PUBLIC HEALTH LABORATORY

# LABORATORY SERVICES MANUAL

*Effective July 1, 2014, Updated November 2015*

# Clinical Testing List of Services

For tests not listed, please contact the laboratory (800-821-7284) for availability.

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# Summary of Changes:

**Removed** the following:
**Human Metapneumovirus (hMPV) by Real Time PCR**
**Parainfluenza by Real Time PCR**
**Respiratory Syncytial Virus (RSV) by Real Time PCR**

**Removed** stool as a source for **Enterovirus (Pan-Enterovirus) Detection by Nucleic Acid Amplification Testing**
**Clarified** acceptable specimens for HSV Direct Detection by PCR

# Tests in Alphabetical Order

## ***A***

**Acid Fast Bacilli (AFB) (see *Mycobacterium spp.*)**

***Actinomyces spp.* Culture Isolation/ Identification (see Bacterial Culture, Anaerobic)**

**Adenovirus Culture (see Respiratory Virus Culture)**

**Adenovirus Direct Detection by Real Time PCR**
Specimen Requirements: Respiratory specimen in Universal Viral Transport Media. See specific instructions.

Turn-around Time: 1 to 3 working days. Results are telephoned to the submitter.

**CPT Code:** 87798
Price: $100.00

Transport Temperature: 2-8°C

**Amebiasis Detection (see Ova and Parasite Exam)**

**Anthrax (see *Bacillus anthracis*)**

**Antimicrobial Resistant Bacteria Confirmation**
Specimen Requirements: Isolate submitted in Cary-Blair transport or on solid media.

Submit any isolate that demonstrates a resistance pattern that has high epidemiologic significance, such as potential Vancomycin Resistant or Intermediate *Staphylococcus aureus*, Methicillin Resistant *Staphylococcus aureus*, Vancomycin Resistant Enterococci, ESBL producing *Enterobacteriaceae*, Carbapenem-Resistant *Enterobacteriaceae* - CRE (e.g., KPC or NDM), and resistant *Streptococcus pneumoniae*.

Turn-around Time: 2 to 4 working days. May be referred to the Centers for Disease Control in Atlanta, Georgia.

**CPT Code:** None
Price: Fee Waived

Transport Temperature: Ambient

***Aspergillus spp.* Culture Isolation/ Identification (see Fungal Culture)**

**Actinomyces spp. Serology**
Specimen Requirements: 2 mL serum

Referred to the Centers for Disease Control, Atlanta, Georgia
Turn-around Time: 3 to 6 weeks

**CPT Code:** 86602
Price: $27.00

Transport Temperature: 2-30°C (Refrigeration preferable)

**Amebiasis Serology (see *Entameba histolytica* serology)**

## Arbovirus Serology, Additional Tests (WEE and California Group) by cELISA, ELISA

Specimen Requirements: 2 mL serum or CSF
Paired acute and convalescent serum recommended. Date of onset must be included on requisition form.

Referred to the Centers for Disease Control, Fort Collins, CO
Turn-around Time: 4 to 6 weeks

**CPT Codes**:
86654 (Western Equine Encephalitis) Price: $27.00
86651 (California Group)

Transport Temperature: 2-30°C (Refrigeration preferable)

## Autoclave Monitoring

Specimen Requirements: BT Sure vials containing *Bacillus stearothermophilus* are obtained by contacting the laboratory. Place the BT Sure vial in center of load to be sterilized, then autoclave using normal procedures.

Turn-around Time: 2 working days from receipt of specimen

**CPT Code:** No code
Price: $21.50

Transport Temperature: Ambient

# ***B***

## *Babesia* Detection

Specimen Requirements: Blood smear, unstained or stained with Wright's or Giemsa.

Turn-around Time: 1 to 2 working days. Positive smears are referred to the Centers for Disease Control, Atlanta, Georgia for confirmation.

**CPT Code:** 87207
Price: $31.00

Transport Temperature: Ambient

## Babesia Serology by IFA

Specimen Requirements: 2 mL serum

Referred to the Centers for Disease Control, Atlanta, Georgia
Turn-around Time: 3 to 6 weeks

**CPT Code:** 86256
Price: $27.00

Transport Temperature: 2-30°C (Refrigeration preferable)

## *Bacillus anthracis* Culture Isolation/ Identification/Rapid Test Methods

Specimen Requirements: Lesion swab, clinical specimen or culture isolate on solid media or in Cary-Blair transport.
Call laboratory for special instructions regarding environmental samples and rapid testing options.

A suspect *B. anthracis* culture requires Infectious Disease packaging (Class 6.2) and trackable shipping. Please notify the laboratory by telephone at time of shipment.

Turn-around Time: Cultures will be held for 3 working days before reporting as negative. Results are telephoned as soon as possible

to the submitter. Rapid test methods are performed in Molecular Diagnostics and are available within 6 - 8 hours of specimen receipt.

**CPT Codes**:
87081 (Culture screen)
Price: $35.00

87798 (PCR)
Price: Fee Waived

Transport Temperature: Ambient

## ***Bacillus anthracis*** **Rapid Test Methods** **(see *Bacillus anthracis* Culture Isolation)**

## Bacterial Culture Identification, Aerobic

Specimen Requirements: Send non-fastidious Gram negative or Gram positive isolates on solid media or on swab in Cary-Blair transport. Fastidious or slow growing organisms require careful transport on an enriched agar medium. Please contact the laboratory prior to submission regarding transport instructions for unusual organisms.

Turn-around Time: Normally 3 to 14 working days, depending on the growth rate of the isolate.

**CPT Codes:**
87070 (culture, presumptive ID)
Price: $22.00

87077 (Each add'l ID)
Price: $20.00

Transport Temperature: Ambient

## Bacterial Culture Identification, Anaerobic

Specimen Requirements: Send isolate in an anaerobic transport system.

Turn-around Time: Normally 3 to 14 working days, depending on the growth rate of the isolate.

**CPT Codes:**
87075 (culture, presumptive ID)
Price: $22.00

87076 (Each add'l ID)
Price: 22.00

Transport Temperature: Ambient

## ***Bartonella spp.*** **(formerly *Rochalimaea spp.*) Culture Isolation/ Identification**

Specimen Requirements: Collect blood in EDTA tube; freeze blood or tissue prior to transport. Send specimen on dry ice.

Turn-around Time: Negative cultures are monitored for 14 days; positive culture results are telephoned to the submitter.

**CPT Code:** 87081 (Culture ID)
Price: $35.00

Transport Temperature: Ambient

## Bartonella spp. (formerly Rochalimaea spp.) Serology by IFA

Specimen Requirements: 2 mL serum, plus completed cat scratch fever disease history form. The laboratory will fax you a form upon request.

Referred to the Centers for Disease Control, Atlanta, Georgia
Turn-around Time: 4 to 6 weeks

**CPT Code:** 86256
Price: $27.00

Transport Temperature: 2-30°C (Refrigeration preferable)

## *Blastomyces spp.* Culture Isolation/ Identification (see Fungal Culture)

## Blastomyces, Histoplasma, Coccidoides Identification by Nucleic Acid Probe

Specimen Requirements: Isolates sent on Sabouraud's slants or as reflex testing on positive primary specimens submitted for culture.

Turn-around Time: 1 to 3 working days for submitted isolates, others dependent on growth rate.

**CPT Code:** 87149 X 3
Price: $31.00 each

Transport Temperature: Ambient

## *Blastomyces spp*. Serology (see Fungal Serology)

## Blood Borne Pathogen Exposure/Source Patient (HBsAg, HIV, HCV) by EIA

Specimen Requirements: 2 mL serum

Turn-around Time: Routinely batch tested once per week. Positive results are telephoned to the submitter. These tests may be ordered as a panel, but are billed individually.

**CPT Codes:**

| | | | |
|---|---|---|---|
| 87340 (HBsAg) | 87389 (HIV) | 86803 (HCV) | Total Price: $90.00 |
| Price: $23.00 | Price: $29.00 | Price: $38.00 | |

Transport Temperature: 2-8°C

## Blood Borne Pathogen Exposure - Exposed Worker (HBsAb, HIV, HCV) by EIA

Specimen Requirements: 2 mL serum

Turn-around Time: Routinely batch tested once per week. Positive results are telephoned to the submitter. These tests may be ordered as a panel, but are billed individually.

**CPT Codes:**

| | | | |
|---|---|---|---|
| 86706 (HBsAb) | 87389 (HIV) | 86803 (HCV) | Total Price: $95.00 |
| Price: $28.00 | Price: $29.00 | Price: $38.00 | |

Transport Temperature: 2-8°C

## Blood Lead by Anodic Stripping Voltometry

Specimen Requirements: 1 mL venous or 0.3 mL capillary whole blood, EDTA (purple top). Adult and child specimen collection kits are available through the laboratory. The laboratory is certified to test for both child and adult lead levels. See instructions on the collection and transport of capillary and venous specimens.

Turn-around Time: Routinely batch tested at least twice per week. Elevated results are telephoned to the submitter.

**CPT Code:** 83655
Price: $21.00

Transport Temperature: 2-30°C (Refrigeration preferable)

## *Bordetella pertussis* Culture Isolation/Identification

Specimen Requirements: Nasopharyngeal (NP) swab in Regan-Lowe transport. Remove the transport medium from the refrigerator and warm to room temperature. Collect specimen. Insert the swab into the transport, cut or break off the end of the swab so that the cap can be tightened securely. Put the transport in the zip-lock bag provided. Do not refrigerate transport medium after it has been inoculated. Regan-Lowe is the only transport media acceptable for pertussis cultures.

Turn-around Time: Negative cultures are monitored for 7 days. Positive culture results may take 3-7 working days and are telephoned to the submitter.

**CPT Codes:**
87081 (Culture screen)
Price: $35.00

87077 (Each add'l ID)
Price: $20.00

Transport Temperature: Ambient

## ***Bordetella pertussis/B. parapertussis/B. holmesii*** **Direct Detection by Real Time PCR**

Specimen Requirements: Nasopharyngeal (NP) swab in a sterile container without transport media. Do not submit a throat or nares specimen or a specimen submitted in Regan Lowe Media. See specific instructions.

Turn-around Time: 1 to 2 working days. Positive results are telephoned to the submitter.

NOTE: PCR testing should be performed only on symptomatic patients; a positive PCR in an asymptomatic patient does not meet the standard CDC case definition and cannot be considered a case of pertussis. PCR testing may be able to detect *B. pertussis* 3 to 4 weeks post onset, and after antibiotic therapy has been initiated.

**CPT Code:** 87801
Price: $100.00

Transport Temperature: Ambient or 2-8°C

## ***Borrelia burgdorferi*** **Serology Total Antibody by EIA with reflex Western Blot confirmation**

Specimen Requirements: 2 mL serum
Date of onset information must be included on requisition form.

Turn-around Time: Routinely batch-tested once per week. Specimens that test positive or equivocal are referred to the Centers for Disease Control, Fort Collins, Colorado for Lyme IgG and IgM Western Blot confirmation.

**CPT Code:** 86618 (Screen)
Price: $35.00

Transport Temperature: 2-30°C (Refrigeration preferable)

## ***Borrelia hermsii*** **Serology (Tick Borne Relapsing Fever) by IgM/IgG ELISA**

Specimen Requirements: 2 mL serum
Paired acute and convalescent serum recommended. Date of onset information must be included on requisition form.

Referred to the Centers for Disease Control, Fort Collins, Colorado
Turn-around Time: 4 to 6 weeks

**CPT Code:** 86619
Price: $27.00

Transport Temperature: 2-30°C (Refrigeration preferable)

## ***Borrelia burgdorferi*** **Culture**

Specimen Requirements: Skin punch biopsy, synovial fluid, CSF. Contact the laboratory prior to collection for special instructions and transport media.

Referred to the Centers for Disease Control, Fort Collins, Colorado
Turn-around Time: 4 to 6 weeks

**CPT Code:** 87081
Price: $27.00

Transport Temperature: Ambient

## ***Brucella spp.*** **Culture Isolation/ Identification/Rapid Test Methods**

Specimen Requirements: Blood, bone marrow, or tissue submitted in sterile saline or broth. Submit suspect culture isolates on solid medium. Call the laboratory for special instructions regarding environmental samples and rapid testing options.

A suspect *Brucella spp.* culture requires Infectious Disease packaging (Class 6.2) and trackable shipping. Please notify the laboratory by telephone at time of shipment.

Turn-around Time: Cultures will be held for 2 weeks before reporting as negative. Results are telephoned as soon as possible to the submitter. Rapid test methods are performed in Molecular Diagnostics and are available within 6 - 8 hours of specimen receipt.

**CPT Codes:**

87081 (Culture screen)
Price: $35.00

87798 (PCR)
Price: Fee Waived

Transport Temperature: Ambient

## ***Brucella spp.*** **Rapid Test Methods** **(see *Brucella spp.* Culture Isolation)**

## **Brucella Serology by Bacterial Agglutination**

Specimen Requirements: 2 ml. Serum
Paired acute and convalescent serum recommended.

Turn-around Time: Routinely batch tested once per week. Positive results are telephoned to the submitter.

**NOTE: Tularemia serology will be automatically performed on all requests for Brucella serology due to antigen cross reactivity.**

**CPT Codes:**

86622 (Brucella)
Price: $22.00

86668 (Tularemia)
Price: $22.00

Total Price: $44.00

Transport Temperature: 2-30°C (Refrigeration preferable)

## ***Burkholderia mallei*, *B. pseudomallei*** **Culture Isolation / ID / Rapid Test Methods**

Specimen Requirements: Clinical specimen in sterile container or isolate submitted in Cary-Blair transport or on solid medium. Call laboratory for special instructions regarding environmental samples and rapid testing options.

A suspect *Burkholderia mallei* or *B. pseudomallei* culture requires Infectious Disease packaging (Class 6.2) and trackable shipping. Please notify the laboratory by telephone at time of shipment.

Turn-around Time: Cultures will be held for 2 weeks before reporting as negative. Results are telephoned as soon as possible to the submitter. Rapid test methods are performed in Molecular Diagnostics and are available within 6 - 8 hours of specimen receipt.

**CPT Codes:**

87081 (Culture screen)
Price: $35.00

87798 (PCR)
Price: Fee Waived

Transport Temperature: Ambient

## ***Burkholderia mallei, B. pseudomallei*** **Rapid Test Methods**

(see *Burkholderia mallei, B. pseudomallei* Culture Isolation)

# ***C***

## *Campylobacter spp.* Culture Isolation/Identification

Specimen Requirements: Stool in submitted in Cary-Blair transport or culture isolate on solid media.

Turn-around Time: 3 to 5 working days. Positive results are telephoned to the submitter.

**CPT Codes:**

87046 (Culture ID)
Price: $14.50

87077 (Each add'l ID)
Price: $20.00

Transport Temperature: 2-8°C for stool specimens, ambient for isolates

## *Candida albicans* Culture Isolation/Identification (see Fungal Culture)

## Carbapenem-Resistant *Enterobacteriaceae* – CRE (see Antimicrobial Resistant Bacteria Confirmation)

## Cat Scratch Fever (see *Bartonella spp.* Serology)

## Central Nervous System (CNS) Virus Culture Isolation/Identification

Specimen Requirements: CSF or Central Nervous System specimen in Universal Viral Transport Media, received within 48 hours of collection. See collection instructions.

Turn-around Time: Cultures are monitored for 2 weeks prior to a negative report. Positive results are telephoned to the submitter.

NOTE: CNS specimens for virus isolation are screened for the presence of the following commonly isolated viruses: Herpes Simplex Virus, Enterovirus (including Echovirus and Coxsackie A & B) and Adenovirus

**CPT Codes:**

87252 (culture)
Price: $41.00

87253 (Virus ID) Each add'l ID
Price: $31.00

Transport Temperature: 2-8°C

## Chagas Disease (see *Trypanosomiasis* Detection)

## Chancroid (see *Haemophilus ducreyi* Culture Isolation)

## *Chlamydia spp.* Culture Isolation/Identification

Specimen Requirements: Specimen in Universal Viral Transport Media received within 48 hours of collection. See collection instructions.

Turn-around Time: 3 to 6 working days. Positive test results are telephoned to the submitter.

**CPT Code:** 87110
Price: $41.00

Transport Temperature: 2-8°C

## *Chlamydia trachomatis* Direct Detection by Nucleic Acid Amplification

Specimen Requirements: Endocervical, male urethral, throat or rectal swab in APTIMA Uni-Sex Swab Specimen Collection Tube, vaginal swab in APTIMA Vaginal Specimen Collection Tube, or urine in APTIMA Urine Specimen Collection Tube. See specific instructions.

Turn-around Time: Routinely tested each working day. Positive results are telephoned to the submitter.

NOTE: Can be run in tandem with *Neisseria gonorrhoeae* Direct Detection by APTIMA Amplification (see Combination Amplification Test below).

**CPT Code:** 87491
Price: $44.00

Transport Temperature: 2-30°C

## ***Chlamydia trachomatis/Neisseria gonorrhoeae* Direct Detection by NAAT (Combo Test)**

Specimen Requirements: Endocervical, male urethral, throat or rectal swab in APTIMA Uni-Sex Swab Specimen Collection Tube, vaginal swab in APTIMA Vaginal Specimen Collection Tube, or urine in APTIMA Urine Specimen Collection Tube. See specific instructions.

Turn-around Time: Routinely tested each working day. Positive results are telephoned to the submitter. These tests can be ordered as a panel, but will be billed individually.

**CPT Codes:**

| | | |
|---|---|---|
| 87491 (Chlamydia) | 87591 (GC) | Total Price: $88.00 |
| Price: $44.00 | Price: $44.00 | |

Transport Temperature: 2-30°C

## **Cholera (see Vibrio Culture Isolation/ Identification)**

## ***Clostridium botulinum* (Botulism) Bacterial ID, Toxin, and Serology Testing**

Consultation with laboratory required prior to referral.

Specimen Requirements: Suspect food, 10 mL serum, and 25 gm stool. Call the laboratory for consultation on sending specimens. An epidemiologic consultation is required, and to make arrangements for receiving antitoxin.

Food testing performed at MTPHL.
Human testing referred to the Utah State Public Health Laboratory in Salt Lake City, UT.

Turn-around Time: Preliminary results in 2 to 4 working days.

**CPT Code:** None
Price: Fee Waived*

Transport Temperature: Contact the laboratory

## ***Clostridium difficile* PCR, including NAP1**

Specimen Requirements: Liquid or unformed stool in a sterile container

Turn-around Time: 1 to 2 working days. Positive results are telephoned to the submitter.

**CPT Code:** 87493
Price: $100.00

Transport Temperature: 2-8°C (Stable for up to 5 days when stored at 2-8°C)

## ***Clostridium difficile* Toxin A & B and Antigen Test by EIA**

Specimen Requirements: Submit at least one milliliter of raw stool in a sterile container. Freeze the specimen.

Turn-around Time: 1 to 2 working days. Positive test results are telephoned to the submitter.

**CPT Code:** 87324

Price: $26.75

Transport Temperature: Frozen

## ***Clostridium spp.*** **(except *C. botulinum*) Culture Isolation/ ID** **(see Bacterial Culture, Anaerobic)**

## **CNS Virus Culture** **(see Central Nervous System Virus Culture)**

## ***Coccidioides spp*. Culture Isolation/ Identification** **(see Fungal Culture)**

## **Coccidioidomycosis Serology** **(see Fungal Serology)**

## **Colorado Tick Fever Virus (CTFV) Serology, IgG by Indirect Immunofluorescence**

Specimen Requirements: 1 mL serum
Paired acute and convalescent serum recommended.

Turn-around Time: Routinely batch tested once per week. Positive results are telephoned to the submitter.

NOTE: Rocky Mountain Spotted Fever testing will automatically be performed on all requests for Colorado Tick Fever.

**CPT Codes:**

| | | |
|---|---|---|
| 86790 (CTFV) | 86757 (RMSF) | Total Price: $44.00 |
| Price: $22.00 | Price: $22.00 | |

Transport Temperature: 2-30°C (Refrigeration preferable)

## ***Corynebacterium diphtheriae*** **Culture Isolation/ Identification**

Specimen Requirements: Throat swab in silica gel or Cary Blair transport medium, or isolate in Cary Blair transport or solid media.

Turn-around Time: 4 to 7 working days. Positive results are telephoned to the submitter.

NOTE: Please call ahead to notify the laboratory, as special media needs to be prepared prior to receipt.

**CPT Code:** 87081 (Culture screen)
Price: $35.00

Transport Temperature: Ambient

## ***Corynebacterium spp.*** **(not *C. diphtheriae)* Culture Isolation/ ID** **(see Bacterial Culture, Aerobic)**

## ***Coxiella brunetii*** **Serology** **(see Q fever Serology)**

## ***Cryptococcus spp*. Culture Isolation/ Identification** **(see Fungal Culture)**

## ***Cryptosporidium / Cyclospora / Isospora*** **Detection by Fluorescent Stain**

Specimen Requirements: Stool in formalin

Turn-around Time: Performed each working day. Positive results are telephoned to the submitter.

**CPT Code:** 87207
Price: $31.00

Transport Temperature: Ambient

## Cryptosporidium and Giardia (Immunocard)

Specimen Requirements: 10% Formalin and sodium acetate-acetic acid-formalin (SAF) preserved stool.
NOTE: Specimens in PVA are not suitable

Turn-around Time: 1 to 2 working days. Positive results are telephoned to the submitter.

**CPT Codes:**
87328 (Cryptosporidium) 87329 (Giardia) Price: $31.00

Transport Temperature: Ambient

## Culture for Storage

Specimen Requirements: Isolate submitted in Cary-Blair transport or on solid media.

Submit organisms that are of epidemiologic interest and need to be stored for molecular comparison to other strains. Laboratories are encouraged to submit organisms which may be part of an outbreak or which demonstrate a significant antibiotic resistance, i.e. *Salmonella spp., E. coli O157*, Toxigenic *E. coli, Shigella spp., N. gonorrhoeae*, *N. meningitidis* from a sterile site, *H. influenzae* from a sterile site, resistant *Streptococcus pneumoniae*, MRSA, VRE, ESBL, KPC, potential VISA or VRSA.

**CPT Code:** None
Price: Fee Waived

Transport Temperature: Ambient

## Cyclospora Detection (see Cryptosporidium / Cyclospora / Isospora Detection)

## Cysticercosis (Taenia spp.) Detection

Specimen Requirements: Stained tissue section

Referred to the Centers for Disease Control, Atlanta, Georgia

Turn-around Time: 2 to 4 weeks

**CPT Code:** 87207
Price: $27.00

Transport Temperature: Ambient

## Cytomegalovirus (CMV) Culture Isolation/Identification

Includes both traditional tube culture and spun vial technology

Specimen Requirements: Urine, BAL, or Bronchial Washings in Universal Viral Transport Media, Heparinized Blood, Biopsies, received within 48 hours of collection. See collection instructions.

Turn-around Time: Spun vial results available within 2 to 3 working days. Cultures are monitored for 1 month before reporting as negative. Cultures of tissue samples are monitored for 2 months prior to a negative report. Positive results are telephoned to the submitter.

**CPT Codes:**
87252 (culture) 87254 (spun vial) Total Price: $ 71.00
Price: $41.00 Price: $30.00

Transport Temperature: 2-8°C

## Cysticercosis (*Taenia spp*.) Serology by Immunoblot

Specimen Requirements: 2 mL serum

Referred to the Centers for Disease Control, Atlanta, Georgia
Turn-around Time: 3 to 6 weeks

**CPT Code:** 84182
Price: $27.00

Transport Temperature: 2-30°C (Refrigeration preferable)

# ***D***

## Dengue Fever Serology by ELISA
Specimen Requirements: 2 mL serum

Referred to the Centers for Disease Control, San Juan, Puerto Rico
Turn-around Time: 4 to 6 weeks

**CPT Code:** 86790
Price: $27.00

Transport Temperature: 2-30°C (Refrigeration preferable)

## Dermatophytes Culture Isolation/ Identification (see Fungal Culture)

## Diphtheria (see *Corynebacterium diphtheriae* Culture Isolation)

## DNA Fingerprinting (see Pulsed Field Gel Electrophoresis for enterics or other organisms)

# ***E***

## Echinococcosis Detection
Specimen Requirements: Stained tissue section

Referred to the Centers for Disease Control, Atlanta, Georgia
Turn-around Time: 1 to 3 weeks

**CPT Code:** 87207
Price: $27.00

Transport Temperature: 2-8°C

## Echinococcosis Serology by EIA
Specimen Requirements: 2 mL serum

Referred to the Centers for Disease Control, Atlanta, Georgia
Turn-around Time: 2 to 4 weeks

**CPT Code:** 84182
Price: $27.00

Transport Temperature: 2-30°C (Refrigeration preferable)

## EHEC, Enterohemorrhagic *E. coli* (see *Escherichia coli* Shiga-Like Toxin Assay or Enteric Panel)

## *Ehrlichia spp.* Serology by Indirect Immunofluorescence

Specimen Requirements: 2 mL serum

Referred to the Centers for Disease Control, Atlanta, Georgia
Turn-around Time: 4 to 6 weeks

**CPT Code:** 86682
Price: $27.00

Transport Temperature: 2-30°C (Refrigeration preferable)

## *Entameba histolytica* Serology by EIA

Specimen Requirements: 2 mL serum Include documentation of negative stool examinations for *E. histolytica*.

Referred to the Centers for Disease Control, Atlanta, Georgia
Turn-around Time: 3 to 6 weeks

**CPT Code:** 86753
Price: $27.00

Transport Temperature: 2-30°C (Refrigeration preferable)

## Enteric Panel Culture Isolation/ Identification

Includes screens for *Salmonella, Shigella, Campylobacter, E. coli* O157 and EHEC

Specimen Requirements: Stool in Cary-Blair transport, or other commercial enteric transport media. Collect stool directly from patient into a clean specimen container. Do not collect from toilet bowl or use stool contaminated with urine. Use a sterile swab to collect a portion of the stool (collect from bloody or mucous-containing areas if present) and insert swab to the lower part of a Cary-Blair transport tube and break or cut the swab stick. A rectal swab is also acceptable if there is evidence of fecal staining on the swab. Cary-Blair transport tubes are supplied upon request.

*Escherichia coli* Shiga-Like Toxin Assay will be performed on all specimens. Stools with positive toxin tests will be further cultured to isolate and identify the toxin-producing organism.

Turn-around Time: 2 to 4 working days. Positive test results are telephoned to the submitter.

**CPT Codes:**

| | | |
|---|---|---|
| 87046 (E. coli)<br>Price: $14.50 | 87046 (*Campy* culture)<br>Price: $14.50 | 87077 (Each add'l ID)<br>Price: $20.00 |
| 87045 (*Salm*. and *Shig*. culture)<br>Price: $14.50 | 87449 (EHEC)<br>Price: $25.00 | Total Price: $68.50 |

Transport Temperature: 2-8°C

## Enteric Isolate Surveillance

Specimen Requirements: All isolates of shiga-toxin producing *Escherichia coli* (including serotype O157:H7), *Salmonella spp., Shigella spp*., *Vibrio*, and *Listeria* should be referred for surveillance purposes.

Confirmation of isolates is performed and results are reported to submitter. In addition, PFGE testing (DNA fingerprinting) will be performed to determine strain-relatedness; results are compared to other strain patterns in Montana and across the nation using the CDC PulseNet database. Results are communicated to the DPHHS Epidemiology staff for follow up.

Turn-around Time: Routinely tested each week.

**CPT Code:** none
Price: Fee Waived

Transport Temperature: Ambient

## Enteric Virus Culture Isolation/Identification

Specimen Requirements: Stool or Rectal Swab in Universal Viral Transport Media, received within 48 hours of collection. See collection instructions.

Turn-around Time: Cultures are monitored for 2 weeks prior to a negative report. Positive results are telephoned to the submitter.

NOTE: Enteric specimens for virus isolation are screened for the following commonly isolated viruses: Enterovirus (including Echovirus and Coxsackie A & B), Adenovirus, and Herpes Simplex Virus

**CPT Codes:**

87252 (culture)
Price: $41.00

87253 (Virus ID) Each add'l ID
Price: $31.00

Transport Temperature: 2-8°

## Enterovirus Culture (see Enteric Virus Culture)

## Enterovirus (Pan-Enterovirus) Detection by Nucleic Acid Amplification Testing

Specimen Requirements: CSF in a sterile transport container without transport media, respiratory specimens (solid or swabs) in Universal Viral Transport Media. See specific instructions.

Turn-around Time: 1 to 3 working days. Positive results are telephoned to the submitter.

**CPT Code:** 87498
Price: $100.00

Transport Temperature: 2-8°C

## ESBL (see Antimicrobial Resistant Bacteria Confirmation)

## *Escherichia coli* O157 Culture Isolation/Identification

Specimen Requirements: Stool specimen in Cary-Blair transport, or other commercial enteric transport media, or culture isolate submitted in Cary Blair transport or on solid media.

For public health surveillance, please submit all isolates of *E. coli* O157 to the laboratory. See Enteric Isolate Surveillance.

Turn-around Time: 2 to 4 working days. Positive results are telephoned to the submitter.

**CPT Codes:**

87046 (Culture ID)
Price: $14.50

87077 (Each add'l ID)
Price: $20.00

Transport Temperature: 2-8°C for stool, ambient for isolates

## *Escherichia coli* Shiga-Like Toxin Assay (Enterohemorrhagic *E. coli*, EHEC or STEC) by EIA

Specimen Requirements: Stool specimen in Cary-Blair transport, or other commercial enteric transport media, or Escherichia coli isolate submitted in Cary Blair transport or on solid media.

EHEC is also performed on all routine enteric panels.

Turn-around Time: 2 to 4 working days. Positive results are telephoned to the submitter. Stools with positive toxin tests will be further cultured to isolate and identify the toxin-producing organism.

**CPT Code:** 87449
Price: $25.00

Transport Temperature: 2-8°C

## Exanthem Serology Panel, IgG only by EIA, IFA

Includes Rubeola, Rubella, HSV, VZV, CTF V and RMSF (during tick season)

Specimen Requirements: 2 mL serum
Paired acute and convalescent serum recommended. Date on onset of rash must be included on requisition form.

Turn-around Time: Routinely batch tested once per week. Significant results are telephoned to the submitter. These tests may be ordered as a panel, but will be billed individually.

NOTE: Tick season is normally March through September.

**CPT Codes:**

| | | | |
|---|---|---|---|
| 86765 (Rubeola)<br>Price: $22.00 | 86695 (HSV1)<br>Price: $22.00 | 86787 (VZV)<br>Price: $22.00 | 86757 (RMSF)<br>Price: $22.00 |
| 86762 (Rubella)<br>Price: $22.00 | 86696 (HSV2)<br>Price: $22.00 | 86790 (CTFV)<br>Price: $22.00 | Total Price: $154.00 |

Transport Temperature: 2-30°C (Refrigeration preferable)

## Exanthem Panel, IgG + IgM by EIA, IFA

Includes Rubeola IgG + IgM, Rubella IgG + IgM, HSV, VZV, CTFV and RMSF (during tick season)

Specimen Requirements: 2 mL serum
Paired acute and convalescent serum recommended. Date on onset of rash must be included on requisition form.

Turn-around Time: Routinely batch tested once per week. IgM testing performed each working day, as needed. Significant results are telephoned to the submitter. These tests may be ordered as a panel, but will be billed individually.

NOTE: Tick season is normally March through September.

**CPT Codes:**

| | | |
|---|---|---|
| 86765 (Rubeola IgG)<br>Price: $22.00 | 86762 (Rubella IgM)<br>Price: $39.00 | 86787 (VZV)<br>Price: $22.00 |
| 86765 (Rubeola IgM)<br>Price: $27.00 | 86695 (HSV1)<br>Price: $22.00 | 86790 (CTFV)<br>Price: $22.00 |
| 86762 (Rubella IgG)<br>Price: $22.00 | 86696 (HSV2)<br>Price: $22.00 | 86757 (RMSF)<br>Price: $22.00 |
| | | Total Price: $218.00 |

Transport Temperature: 2-30°C (Refrigeration preferable)

# ***F***

## *Francisella tularensis* Culture Isolation/ Identification/Rapid Test Methods

Specimen Requirements: Clinical specimen in sterile container or pure culture submitted in Carey-Blair transport or on solid medium. Call laboratory for special instructions regarding environmental samples and rapid testing options.

A suspect *F. tularensis* culture requires Infectious Disease packaging (Class 6.2) and trackable shipping. Please notify the laboratory by telephone at time of shipment.

Turn-around Time: Cultures will be held for 2 weeks before reporting as negative. Results are telephoned as soon as possible to the submitter. Rapid test methods are performed in Molecular Diagnostics and are available within 6 - 8 hours of specimen receipt.

**CPT Codes:**

| | |
|---|---|
| 87081 (Culture screen) | 87798 (PCR) |
| Price: $35.00 | Price: Fee Waived |

Transport Temperature: Ambient

## ***Francisella tularensis* Rapid Test Methods (see *Francisella tularensis* Culture Isolation)**

## ***Francisella tularensis* Serology by Bacterial Agglutination**

Specimen Requirements: 2 mL serum
Paired acute and convalescent specimens recommended.

Turn-around Time: Routinely batch tested once per week. Positive results are telephoned to the submitter.

NOTE: *Brucella* serology testing will be automatically performed on all requests for Tularemia serology due to antigen cross reactivity.

**CPT Codes:**

| | | |
|---|---|---|
| 86668 (Tularemia) | 86622 (*Brucella*) | Total Price: $44.00 |
| Price: $22.00 | Price: $22.00 | |

Transport Temperature: 2-30°C (Refrigeration preferable)

## Fungal Culture Isolation/Identification

Specimen Requirements: Send original specimens in a sterile container. Send cutaneous specimens dry. Send fungal isolates on an agar slant. See specific instructions.

Turn-around Time: Primary specimen cultures are monitored for 4 weeks prior to a negative report.

**CPT Codes:**

| | | | |
|---|---|---|---|
| 87101 (culture, skin) | 87103 (culture, blood) | 87106 (ID, yeast) | 87107 (ID, mold) |
| 87102 (culture, other) | Price: $38.00 Each | Price: $16.50 Each | Price: $16.50 Each |

Transport Temperature: Ambient

## Fungal Serology (Histo, Cocci, Blasto) by CF & Agar Gel

Specimen Requirements: 2 mL serum

Referred to the Centers for Disease Control, Atlanta, Georgia
Turn-around Time: 3 to 6 weeks

**CPT Codes:**

| | | | |
|---|---|---|---|
| 86698 (Histoplasma) | 86612 (Blastomyces) | 86635 (Coccidioides) | Price: $27.00 |

Transport Temperature: 2-8°C

# ***G***

## ***Gardnerella vaginalis* Culture Isolation/ Identification (see Bacterial Culture, Aerobic)**

## ***Giardia* Detection (see Ova and Parasite Exam)**

## Giardia and Cryptosporidium (Immunocard)

Specimen Requirements: 10% Formalin and sodium acetate-acetic acid-formalin (SAF) preserved stool.
NOTE: Specimens in PVA are not suitable

Turn-around Time: 1 to 2 working days. Positive results are telephoned to the submitter.

**CPT Codes:**
87329 (Giardia) 87328 (Cryptosporidium) Price: $31.00

Transport Temperature: Ambient

## Gonococcal Infections (see *Neisseria gonorrhoeae* Culture Isolation)

## Group A *Streptococcus* Screen (see *Streptococcus* Screen for Group A)

# ***H***

## *Haemophilus ducreyi* Culture Isolation/ Identification

Specimen Requirements: Saline or broth moistened swab from the base and undetermined margins of the chancroid lesion, smeared and sent on chocolate plate or placed in Cary-Blair transport.

Turn-around Time: Negative cultures are monitored for 14 days. Positive culture results are telephoned to the submitter.

**CPT Code:** 87081 (Culture screen)
Price: $35.00

Transport Temperature: Ambient

## *Haemophilus influenzae* Culture Isolation/ Identification

Specimen Requirements: Primary specimen or isolate on MTM or chocolate media.

Turn-around Time: 2 to 4 working days. Positive *H. influenzae* results from sterile sites are telephoned to the submitter.

NOTE: Serogrouping is routinely performed on *H. influenzae* isolates from sterile body sites such as blood or cerebral spinal fluid. Please submit all *H. influenzae* isolates from sterile body sites to the laboratory for serogrouping and storage for future epidemiologic purposes.

**CPT Codes:**
87081 (culture) 87185 (beta lactamase)
Price: $35.00 Price: $6.50

Transport Temperature: Ambient

## *Haemophilus spp*. Culture Isolation/ Identification (see Bacterial Culture, Aerobic)

## Hantavirus (Sin Nombre Virus) IgG + IgM Serology by EIA, capture EIA

Specimen Requirements: 1 mL serum

Turn-around Time: Routinely batch tested once per week. Testing is available each working day, or on weekends and holidays as needed. Call ahead to notify the laboratory and to make arrangements. Positive and STAT results are telephoned to the submitter.

To qualify for STAT testing, all of the following criteria must be met:

1. The patient is hospitalized with an acute respiratory illness, typical of Hantavirus pulmonary syndrome (HPS).
2. The patient is critically ill.
3. The patient does not have any relevant underlying medical condition that could account for the symptoms (COPD, malignancy, immunosuppression, diabetes)
4. The onset of illness (date when prodromal symptoms such as low grade fever and myalgia were noted) is 3 or more days prior to serum sample collection. IgM antibody to SNV is usually not detectable until the patient develops shortness of breath.

**CPT Codes:**

| | | |
|---|---|---|
| 86790 (IgG)<br>Price: $49.00 | 86790 (IgM)<br>Price: $ 49.00 | Total Price: $98.00 |

Transport Temperature: 2-30°C (Refrigeration preferable)

## HCV (See Hepatitis C Screen)

## Hepatitis, Acute Panel by EIA (HAV IgM Ab, HBsAg, HBc IgM Ab, HCV)

Specimen Requirements: 2 mL serum

Turn-around Time: Testing is routinely batch tested once per week, but may be available each working day as needed. Call ahead to notify the laboratory and to make arrangements if immediate testing is needed. Positive and STAT results are telephoned to the submitter.

**CPT Codes:** 80074
Price: $127.00

| | | | |
|---|---|---|---|
| 86803 (Hep C)<br>Price: $38.00 | 86705 (HBcoreM)<br>Price: $33.00 | 86709 (HAVM)<br>Price: $33.00 | 87340 (HBsAg)<br>Price: $23.00 |

Transport Temperature: 2-30°C (Refrigeration preferable)

## Hepatitis A IgM Antibody (HAV IgM) by EIA

Specimen Requirements: 1 mL serum

Turn-around Time: Testing is routinely batch tested once per week, but may be available each working day as needed. Call ahead to notify the laboratory and to make arrangements if immediate testing is needed. Positive and STAT results are telephoned to the submitter.

**CPT Code:** 86709
Price: $33.00

Transport Temperature: 2-30°C (Refrigeration preferable)

## Hepatitis B Core IgM (HBc IgM) Antibody by EIA

Specimen Requirements: 1 mL serum

Turn-around Time: Testing is routinely batch tested once per week, but may be available each working day as needed. Call ahead to notify the laboratory and to make arrangements if immediate testing is needed. Positive and STAT results are telephoned to the submitter.

**CPT Code:** 86705
Price: $33.00

Transport Temperature: 2-30°C (Refrigeration preferable)

## Hepatitis B Core Total Antibody (HBc Total) by EIA

Specimen Requirements: 1 mL serum

Turn-around Time: Testing is routinely batch tested once per week. Positive results are telephoned to the submitter.

NOTE: If this test is the only Hepatitis B serologic marker ordered, positive results will automatically be reflexed to a HBsAg and HBsAb test.

**CPT Code:** 86704
Price: $38.00

Transport Temperature: 2-30°C (Refrigeration preferable)

## Hepatitis B Surface Antibody (HBsAb) by EIA (Quantitation)

Specimen Requirements: 1 mL serum

Turn-around Time: Testing is routinely batch tested once per week.

**CPT Code:** 86706
Price: $28.00

Transport Temperature: 2-30°C (Refrigeration preferable)

## Hepatitis B Surface Antigen (HBsAg) by EIA with reflex confirmation

Specimen Requirements: 2 mL serum

Turn-around Time: Routinely batch tested once per week. Call ahead to notify the laboratory and to make arrangements if immediate testing is needed. Positive and STAT results are telephoned to the submitter.

NOTE: Confirmatory Neutralization testing will be automatically performed on all repeat reactive screens.

**CPT Code:** 87340 (HBsAg)
Price: $23.00

Transport Temperature: 2-30°C (Refrigeration preferable)

## Hepatitis C (HCV) Antibody Screen by EIA

Specimen Requirements: 2 mL serum

Turn-around Time: EIA screens routinely batch tested twice per week. Positive results are telephoned to the submitter.

NOTE: Confirmatory testing is recommended on specimens with S/CO ratios of less than 3.8. Confirmatory testing is NOT performed by MT PHL and must be sent by the collecting facility to a reference laboratory.

**CPT Code:** 86803 (Screen)
Price: $38.00

Transport Temperature: 2-30°C (Refrigeration preferable)

## Herpes Simplex Virus (HSV) Type 1 and 2 Culture Isolation/Identification

Specimen Requirements: Specimen in Universal Viral Transport Media, received within 48 hours of collection. See collection instructions.

Turn-around Time: Cultures are monitored for 7 days prior to a negative report. Positive results are telephoned to the submitter.

**CPT Codes:**

87252 (culture)
Price: $41.00

87253 (Virus ID)
Price: $31.00

Transport Temperature: 2-8°C

## Herpes Simplex Virus, Type 1 and 2, Direct Detection by Real Time PCR

Specimen Requirements: CSF in sterile container without transport media, or Cervical Swab or Lesion swab in Universal Viral Transport Media. See specific instructions.

Turn-around Time: 1 to 3 working days. Positive results are telephoned to the submitter.

**CPT Code:** 87529
Price: $100.00

Transport Temperature: 2-8°C

## Herpes Simplex Virus (HSV), Type 1 and 2, IgG Serology by type specific EIA

Specimen Requirements: 1 mL serum
Screen or paired acute and convalescent specimens

Turn-around Time: Routinely batch tested once per week. Significant results are telephoned to the submitter.

**CPT Codes:**

| | | |
|---|---|---|
| 86695 (HSV 1) | 86696 (HSV 2) | Total Price: $44.00 |
| Price: $22.00 | Price: $22.00 | |

Transport Temperature: 2-30°C (Refrigeration preferable)

## Herpes Zoster Virus Culture (See Varicella Zoster Virus Culture)

## Herpes Zoster Virus IgG Serology by EIA (See Varicella Zoster Virus Serology)

## Histoplasma Culture Isolation/ Identification (see Fungal Culture)

## Histoplasma Serology (see Fungal Serology)

## HIV 1/2 Ab/p24 Ag by EIA

Specimen Requirements: 1 mL serum

Turn-around Time: EIA screens routinely tested several days each week; Multispots are performed as needed. Positive results are telephoned to the submitter.

NOTE: Reflex supplemental testing is performed on all repeat reactive EIA screens using the newly proposed HIV testing algorithm. HIV Multispot testing will be performed to confirm the presence of HIV antibody and to differentiate HIV-1 and HIV-2. HIV RNA testing will be performed to confirm the presence of HIV p24 antigen (acute infection) when the HIV Ab/Ag Combo test is repeat reactive and the HIV Multispot test is negative.

**CPT Codes:**

| | |
|---|---|
| 87389 | 86703-92 (Multispot) |
| Price: $29.00 | Price: $50.00 |

Transport Temperature: 2-8°C or frozen

## HIV-1/HIV-2 Multispot Rapid Test

Specimen Requirements: 1 mL serum

Turn-around Time: Test performed as needed

NOTE: This test is used to differentiate HIV-1 and HIV-2 and is used in an algorithm when the HIV Combo Ag/Ab EIA is repeat-reactive. Repeat reactive EIA screens with negative Multispot results are reflexed to Wadsworth Center, New York, for HIV-1 Nucleic Acid Testing.

**CPT Code:** 86703-92
Price: $50.00

Transport Temperature: 2-30°C (Refrigeration preferable)

***I***

## Influenza A and B Culture (See Respiratory Virus Culture)

## Influenza A and B Direct Detection by Real Time PCR

Specimen Requirements: Respiratory specimen in Universal Viral Transport Media. See specific instructions.

This test detects Influenza B and all subtypes of Influenza A, including seasonal 2009 H1N1, and H5 Avian Influenza. All Influenza A positive specimens will be reflexed to real-time PCR subtyping.

Turn-around Time: 1 to 3 working days. Positive results are telephoned to the submitter.

**CPT Code:** 87502
Price: $50.00

Transport Temperature: 2-8°C

## Influenza A Sub-typing by Immunofluorescence

Specimen Requirements: Influenza A virus isolate from cell culture. All Influenza A isolates are reflexed to typing for seasonal H1N1 2009 and H3 and H1 subtypes

Turn-around Time: Performed as needed. Results are telephoned to the submitter.

**CPT Code:** 87276
Price: $12.00

Transport Temperature: 2-8°C

## Influenza A Sub-typing by Real Time PCR

Specimen Requirements: Nucleic acid derived from a PCR specimen screened positive for Influenza A. Reflex testing is performed on all Influenza A positive specimens.

Turn-around Time: Sub-typing is performed each working day. Results are telephoned to the submitter.

**CPT Code:** 87503
Price: $30.00

Transport Temperature: 2-8°C

## Influenza B Genotyping by Real Time PCR

Specimen Requirements: Nucleic acid derived from a PCR specimen screened positive for Influenza B. Reflex testing is performed on all Influenza B positive specimens.

Turn-around Time: Sub-typing is performed each working day. Results are telephoned to the submitter.

**CPT Code:** 87503
Price: $30.00

Transport Temperature: 2-8°C

## Influenza Isolate Susceptibility Testing and Characterization

Specimen Requirements: Influenza A isolate in cell culture fluid. The laboratory routinely selects significant isolates for susceptibility testing and characterization.

*Testing is performed at no cost for epidemiological purposes.

Referred to the Centers for Disease Control, Atlanta, Georgia
Turn-around Time: 6 to 8 weeks

Price: Fee Waived*

Transport Temperature: 2-8°C

***Isospora* Detection (see *Cryptosporidium / Cyclospora / Isospora* Detection)**

## ***J***

## ***K***

**KPC (*K. pneumoniae* Carbapenemase) (see Antimicrobial Resistant Bacteria Confirmation)**

## ***L***

**Lead Testing (see Blood Lead)**

### ***Legionella pneumophila* Groups 1-4 IgG Serology by Indirect Immunofluorescence**

Specimen Requirements: 1 mL serum
Paired acute and convalescent serum recommended (drawn approx. 4 to 6 weeks apart).

Turn-around Time: Routinely batched tested once per week. Positive results are telephoned to the submitter.

**CPT Code:** 86713
Price: $22.00

Transport Temperature: 2-30°C (Refrigeration preferable)

### ***Legionella pneumophila* Groups 1-6 Direct Detection by Immunofluorescence**

Specimen Requirements: Nasopharyngeal (NP) or Throat swab smeared on microscope slide, or primary specimen as above.

Turn-around Time: Performed each working day. Positive results are telephoned to the submitter.

**CPT Code:** 87278
Price: $26.00

Transport Temperature: Ambient

### ***Legionella spp*. Culture Isolation/ Identification**

Specimen Requirements: Submit fresh or frozen lung tissue, pleural fluid, bronchial washings, trans-tracheal aspirates, chest drainage, BAL, or sputum. Put a minimum of 1 mL specimen in a sterile, leak-proof container, and transport on ice in an insulated container.

Turn-around Time: DFA test performed each working day. Positive test results are telephoned to the submitter. Cultures are monitored for 14 working days before reporting as negative.

NOTE: Both a DFA test and culture is performed on each primary specimen received.

**CPT Codes:**

| | | |
|---|---|---|
| 87081 (Culture screen) | 87278 (DFA) | 87077 (Each add'l ID) |
| Price: $35.00 | Price: $26.00 | Price: $20.00 |

Transport Temperature: 2-8°C

### ***Leishmania* Detection**

Specimen Requirements: Lesion smear of tissue

Referred to the Centers for Disease Control, Atlanta, Georgia

Turn-around Time: 3 to 6 weeks

**CPT Code:** 87207
Price: $27.00

Transport Temperature: Ambient

### ***Leishmania* Serology by IFA**
Specimen Requirements: 2 mL serum

Referred to the Centers for Disease Control, Atlanta, Georgia
Turn-around Time: 3 to 6 weeks

**CPT Code:** 86717
Price: $27.00

Transport Temperature: 2-30°C (Refrigeration preferable)

### ***Leptospira* Serology by INDX Dip-S-Ticks or IgM EIA**
Specimen Requirements: 2 mL serum
Paired acute and convalescent serum specimens are recommended.

Referred to the Centers for Disease Control, Atlanta, Georgia
Turn-around Time: 3 to 6 weeks

**CPT Code:** 86720
Price: $27.00

Transport Temperature: 2-30°C (Refrigeration preferable)

### ***Listeria* Culture Isolation/ Identification (see Bacterial Culture, Aerobic)**

### **Lyme Disease Culture (see *Borrelia burgdorferi* culture)**

### **Lyme Disease Serology (see *Borrelia burgdorferi* serology)**

### ***Lymphogranuloma venereum* (LGV) Culture (see *Chlamydia spp.* Culture)**

## ***M***

### **Malaria Detection/ Identification (see *Plasmodium* Detection)**

### **Malaria Serology (see *Plasmodium* Serology)**

### **Measles Culture (see Rubeola Culture)**

### **Measles PCR (see Rubeola (Measles) Direct Detection by Real Time PCR)**

### **Measles Serology (see Rubeola Serology)**

### **Meningococcal Infection (see *Neisseria spp.* including *N. meningitidis* Culture)**

### **Methicillin Resistant *Staphylococcus aureus* (MRSA) (see Antimicrobial Resistant Bacteria Confirmation)**

## Modified Acid Fast Stain

Specimen Requirements: Send specimens in sterile container. Add sterile saline or broth to tissues or other non-liquid specimens. Send isolates on LJ medium.

Turn-around Time: 1 to 2 working days. Positive results will be called to the submitter.

**CPT Code:** 87206 (smear)
Price: $15.00

Transport Temperature: Ambient

## Mold Culture Isolation/ Identification (see Fungal Culture)

## MRSA (see Antimicrobial Resistant Bacteria Confirmation)

## Mumps Culture Isolation/Identification

Specimen Requirements: Saliva, Urine in Universal Viral Transport Media, received within 48 hours of collection. See collection instructions.

Contact the laboratory if molecular testing is requested.

Turn-around Time: Cultures are monitored for 2 weeks prior to a negative report. Positive results are telephoned to the submitter.

**CPT Codes:**

87252 (culture)
Price: $41.00

87253 (Virus ID) Each add'l ID
Price: $31.00

Transport Temperature: 2-8°C

## Mumps Direct Detection by Real Time PCR

Specimen Requirements: Oral/buccal or oropharyngeal Dacron swabs in viral transport media or 50 ml minimum of urine.
Urine should be centrifuged at 2500xg for 15 min at 4° C. Resuspend sediment in 2 ml viral transport media
Note: Urine may not be positive until 4 days after symptom onset
*CSF may be submitted in meningitis/encephalitis-suspect cases with prior consult*

Turn-around Time: 1 to 2 working days. Positive results are telephoned to the submitter.

**CPT Code:** 87798
Price: $100.00

Transport Temperature: 2-8° C within 24 hours or freeze at -70° C and transport on dry ice.

## Mumps IgG Serology by EIA

Specimen Requirements: 1 mL serum
Screen or paired acute and convalescent specimens

Turn-around Time: Routinely batch tested once per week. Positive results are telephoned to the submitter.

**CPT Code:** 86735
Price: $22.00

Transport temperature: 2-30°C (Refrigeration preferable)

## Mumps IgM Serology by IFA

Specimen Requirements: 1 mL serum
Collect specimen two (2) days after onset of illness and include date of onset.

Turn-around Time: Testing performed at North Dakota Public Health Laboratory as needed. Results are available within 2-3 days. Results are telephoned to the submitter.

**CPT Code:** 86735
Price: $22.00

Transport Temperature: 2-30°C (Refrigeration preferable)

## ***Mycobacterium spp.*** **Culture Isolation/ Identification**

Specimen Requirements: Send specimens in sterile container. Add sterile saline or broth to tissues or other non-liquid specimens. Send isolates on LJ medium or in liquid media vials. See specific instructions.

Turn-around Time: Smear reports are faxed to submitter by 5 p.m. the same day specimen is processed. Positive results are telephoned to the submitter; cultures are monitored for 6 weeks prior to negative report. Cultures positive for Mycobacterium tuberculosis complex will be reflexed for *Mycobacterium tuberculosis* complex Antimicrobial Susceptibility Testing.

NOTE: After a patient has tested positive for *M. tuberculosis*, no more than three specimens per week from the same body site will be processed to determine response to therapy and infectious status, without prior consultation. To determine response to therapy, specimens should be obtained no sooner than 7 days post initiation of therapy.

**CPT Codes:**

| | | | |
|---|---|---|---|
| 87206 (smear) | 87015 (concentration) | 87116 (culture) | 87176 (tissue digestion) |
| Price: $15.00 | Price: $16.00 | Price: $34.00 | Price: $9.50 |

Transport Temperature: Ambient

## ***Mycobacterium spp.*** **Identification by Nucleic Acid Probe**

Specimen Requirements: Isolates sent on LJ slants or in liquid media vials, or as reflex testing on positive primary specimens submitted for culture.

Turn-around Time: 1 to 3 working days for submitted isolates, others dependent on growth rate.

NOTE: On initial isolation of an AFB from a new patient, both *M. tuberculosis* complex and *M. avium* complex probes will be run on the isolate. After *M. tuberculosis* complex has been confirmed in the patient, subsequent cultures received during the next six weeks will only be probed for *M. tuberculosis* complex.

**CPT Codes:**

| | | | |
|---|---|---|---|
| 87555 (*M. tuberculosis)* | 87560 (*M. avium* probe) | 87550 (*M. gordonae or M. kansasii*) | Price: $31.00 each |

Transport Temperature: Ambient

## ***Mycobacterium tuberculosis*** **complex Antimicrobial Susceptibility Testing**

Specimen Requirements: Isolates sent on LJ slants or in liquid media vials, or primary specimens submitted for culture. Reflex testing is performed on *Mycobacterium tuberculosis* complex isolates identified in this laboratory.

Agents tested: Isoniazid (two concentrations), Rifampin, Ethambutol and PZA.

Turn-around Time: 7 to 14 working days from date susceptibility testing is begun.

NOTE: Susceptibility testing for *M. tuberculosis* will be performed only on the first isolate from the patient, and will be repeated on subsequent isolates from specimens received 2 months after initiation of therapy. Other susceptibility testing, including molecular drug susceptibility testing or second line drug testing is available upon consultation.

**CPT Code:** 87190 X 5 Total Price: $77.50
Price: $15.50 each

Transport Temperature: Ambient

## ***Mycobacterium tuberculosis* Nucleic Acid Amplification Testing with Rifampin resistance marker**

Specimen Requirements: Processed concentrated respiratory specimen or primary respiratory specimen. See specific instructions.

Turn-around Time: 1 to 2 working days. Call ahead to make testing arrangements. Results are telephoned to the submitter.

NOTE: The submitter of an AFB smear positive respiratory specimen will be contacted by the laboratory and offered testing by nucleic acid amplification for *M.tuberculosis* complex.

**CPT Code:** 87556
Price: $95.00

Transport Temperature: Ambient

## Mycology Culture (see Fungal Culture)

# ***N***

## ***Neisseria gonorrhoeae* Culture Isolation/ Identification**

Specimen Requirements: Primary culture or isolate on MTM or chocolate media; identification performed by Nucleic Acid Probe.

Turn-around Time: 2 to 3 working days. Positive results are telephoned to the submitter.

NOTE: For public health surveillance, please submit all *N. gonorrhoeae* isolates to the laboratory. This is at no cost to the submitter (See Culture for Storage).

**CPT Codes:**

| | | |
|---|---|---|
| 87081 (Culture screen) | 87149 (ID) | 87185 (beta lactamase) |
| Price: $35.00 | Price: $31.00 | Price: $6.50 |

Transport Temperature: Ambient

## ***Neisseria gonorrhoeae* Direct Detection by Nucleic Acid Amplification**

Specimen Requirements: Endocervical, male urethral, throat or rectal swab in APTIMA Uni-Sex Swab Specimen Collection Tube, vaginal swab in APTIMA Vaginal Specimen Collection Tube, or urine in APTIMA Urine Specimen Collection Tube. See specific instructions.

Turn-around Time: Routinely tested each working day. Positive results are telephoned to the submitter.

NOTE: Can be run in tandem with *Chlamydia trachomatis* Direct Detection by Amplification (see Combination Amplification Test).

**CPT Code:** 87591
Price: $44.00

Transport Temperature: 2-30°C

## ***Neisseria spp*. (including *N. meningitidis*) Culture Isolation /Identification/Typing**

Specimen Requirements: Primary specimen or isolate on MTM or chocolate media

Turn-around Time: 2 to 4 working days. Positive *N. meningitidis* results are telephoned to the submitter.

NOTE: Serogrouping is routinely performed on *N. meningitidis* isolates from sterile body sites such as blood or cerebral spinal fluid. Please submit all *N. meningitidis* isolates from sterile body sites to the laboratory for serogrouping and storage for future epidemiologic purposes.

**CPT Codes:**

87081 (Culture screen)
Price: $35.00

87185 (beta lactamase)
Price: $6.50

Transport Temperature: Ambient

## Newborn Screening Panel

Specimen Requirements: Dried Blood Spots. See collection instructions.

Total Price: $112.25

Turn-around Time: 3 to 5 working days. Abnormal results are telephoned to the submitter. Contact the laboratory for further information.

Transport Temperature: Ambient

| Screening Tests | CPT Code | Price |
|---|---|---|
| Acylcarnitine Disorders by Tandem Mass Spectrometry (MS/MS)*<br>Fatty Acid Oxidation Disorders<br>Carnitine Uptake Defect<br>Long Chain L-3-Hydroxyacyl CoA Dehydrogenase Deficiency (LCHAD)<br>Medium Chain Acyl-CoA Dehydrogenase Deficiency (MCAD)<br>Trifunctional Protein Deficiency (TFP)<br>Very Long Chain Acyl-CoA Dehydrogenase Deficiency (VLCAD)<br>Organic Acidemia Disorders<br>3-OH 3-CH3 Glutaric Aciduria<br>3-Methylcrotonyl-CoA Carboxylase Deficiency<br>β-ketothiolase Deficiency<br>Glutaric Acidemia Type I<br>Isovaleric Acidemia<br>Methylmalonic Acidemia (Cbl A and B)<br>Methylmalonic Acidemia (mutase deficiency)<br>Multiple CoA Carboxylase Deficiency (MCD)<br>Proprionic Acidemia | 82017 | $11.75 |
| Amino Acid Disorders by Tandem Mass Spectrometry (MS/MS)*<br>Argininosuccinic acidemia<br>Citrullinemia<br>Homocystinuria (due to CBS deficiency)<br>Maple syrup urine disease<br>Tyrosinemia type I | 82136 | $4.65 |
| Biotinidase* | 82261 | $6.00 |
| Classic Galactosemia | 82775 | $13.90 |
| Congenital Adrenal Hyperplasia (CAH)*<br>21 hydroxylase deficiency | 83498 | $11.50 |
| Congenital Hypothyroidism (CH)<br>Thyroxine (T4) testing, TSH reflex testing | 84437 | $12.45 |
| Cystic Fibrosis (IRT)<br>Confirmatory DNA Mutational Analysis* as warranted | 83516 | $12.00 |
| Phenylketonuria (PKU) | 84030 | $12.50 |
| Hemoglobinopathies by Isoelectric Focusing<br>Hb **S/B**-thalassemia<br>Hb **SC** disease<br>Hb **SS** disease (Sickle cell anemia)<br><br>HPLC reflex testing* | 83020 | $11.50 |
| Severe Combined Immunodeficiency (SCID Immunodeficiency: TREC)* | TBD | $6.00 |

* Tests referred to the Wisconsin State Newborn Screening Laboratory

The cost of reflex confirmatory testing (TSH, Hemoglobinopathies by HPLC and Cystic Fibrosis DNA Mutational Analysis) has been incorporated into the cost of the Newborn Screening panel, and no additional charges will be assessed.

## ***Nocardia spp*. Culture Isolation/ Identification (see Fungal Culture)**

## ***Nocardia spp*. Serology**

Specimen Requirements: 2 mL serum

Referred to the Centers for Disease Control, Atlanta, Georgia
Turn-around Time: 3 to 6 weeks.

**CPT Code:** 86744
Price: $27.00

Transport Temperature: 2-30°C (Refrigeration preferable)

## Norovirus Direct Detection by Nucleic Acid Amplification

Specimen Requirements: 2 mL stool in a sterile container. See specific instructions.

Turn-around Time: 1 to 3 working days. Positive results are telephoned to the submitter.

**CPT Code:** 87798
Price: $100.00

Transport Temperature: 2-8°C

# ***O***

## Orthopoxvirus, including Variola (Smallpox), Direct Detection by Real Time PCR

Specimen Requirements: Lesion swab in Universal Viral Transport Media plus an additional lesion swab transported dry in a sterile container. Call the laboratory for special instructions regarding environmental samples.

A suspect Orthopoxvirus requires Infectious Disease packaging (Class 6.2) and trackable shipping. Please notify the laboratory by telephone at time of shipment.

Turn-around Time: 1 to 3 working days. Results are telephoned to the submitter.

**CPT Code:** 87798
Price: Fee Waived

Transport Temperature: 2-8°C

## Orthopoxvirus, Other Than Variola, Direct Detection by Real Time PCR

Specimen Requirements: Lesion swab in Universal Viral Transport Media plus an additional lesion swab transported dry in a sterile container. See specific instructions.

Turn-around Time: 1 to 3 working days. Results are telephoned to the submitter.

**CPT Code:** 87798
Price: Fee Waived

Transport Temperature: 2-8°C

## Ova and Parasite Exam

Specimen Requirements: Stool transported in tubes containing Formalin and PVA. Collect stool into a clean specimen container.

Using the spoon inside the transport material, immediately transfer about 1 teaspoon of stool to a vial of 10% buffered formalin, and then transfer a similar quantity of stool to a vial containing PVA. Stool should be emulsified into the transport media. Formalin and PVA transport kits are available from the laboratory upon request.

For optimal recovery, a series of 3 specimens should be submitted.

Turn-around Time: 1 to 2 working days. Positive results are telephoned to the submitter.

**CPT Codes:**

| | | |
|---|---|---|
| 87177 (concentration/ID) | 87209 (Trichrome stain) | Total Price: $46.00 |
| Price: $23.00 | Price: $23.00 | |

Transport Temperature: Ambient

# ***P***

## Paragonimus Detection

Specimen Requirements: Lung tissue

Referred to the Centers for Disease Control, Atlanta, Georgia
Turn-around Time: 3 to 6 weeks

**CPT Code:** 87207
Price: $27.00

Transport Temperature: 2-8°C

## Paragonimus Serology

Specimen Requirements: 2 mL serum

Referred to the Centers for Disease Control, Atlanta, Georgia
Turn-around Time: 3 to 6 weeks

**CPT Code:** 86317
Price: $27.00

Transport Temperature: 2-30°C (Refrigeration preferable)

## Parainfluenza Types 1 - 3 Culture (See Respiratory Virus Isolation)

## Parasite Detection (see Ova and Parasite Exam)

## Paratyphoid Fever (see *Salmonella spp.*)

## *Parvovirus* Serology IgG & IgM by EIA

Specimen requirements: 2 mL serum

Referred to the Oregon State Public Health Laboratory, Salem, OR
Turn-around Time: 2 to 4 weeks

**CPT Code:** 86747
Price: $27.00

Transport Temperature: 2-8°C

## ***Pasteurella spp*. Culture Isolation/ Identification (see Bacterial Culture, Aerobic)**

## ***Penicillium spp*. Culture Isolation/ Identification (see Fungal Culture)**

## **Pertussis (see *Bordetella pertussis*)**

## **Phenylalanine Monitor by Fluorescent Immunoassay**

Specimen Requirements: Dried Blood Spots. See collection instructions.

Used to monitor levels in patients diagnosed with phenylketonuria (PKU)

Turn-around Time: 1 to 2 working days. All PKU Monitor results are telephoned to the clinician of record.

**CPT Code:** 84030
Price: Fee Waived. Phone the laboratory for more information.

Transport Temperature: Ambient

## **Pinworm Examination (*Enterobius vermicularis*)**

Specimen Requirements: Microscopic identification of eggs collected in the perianal area is the method of choice for diagnosing enterobiasis. In the morning, before defecation and washing, press transparent adhesive tape ("Scotch test") on the perianal skin and then place the tape on a slide. Alternatively, the tape can be attached to the glass slide in a loop, and then folded over the glass surface after application to the perianal skin.

Turn-around Time: 1 to 2 working days. Positive results are telephoned to the submitter.

**CPT Code:** 87177 (concentration/ID)
Price: $23.00

Transport Temperature: Ambient

## **Plague (see *Yersinia pestis* Culture Isolation)**

## ***Plasmodium* Detection**

Specimen Requirements: Blood smear, thick and thin; unstained or stained with Giemsa or Wright's Stain, and whole blood in EDTA tube (for possible PCR testing).

Turn-around Time: 1 to 2 working days. Positive samples for confirmation and specimens for PCR testing are referred to the Centers for Disease Control, Atlanta, Georgia.

**CPT Code:** 87207
Price: $31.00

Transport Temperature: Ambient

## ***Plasmodium* Serology by IFA**

Specimen Requirements: 2 mL serum

Referred to the Centers for Disease Control, Atlanta, Georgia
Turn-around Time: 2 to 4 weeks

NOTE: Serology is performed only on patients whose blood slides are repeatedly negative, and have compatible travel history.

**CPT Code:** 86750
Price: $27.00

Transport Temperature: 2-30°C (Refrigeration preferable)

## Pneumococcal Infection (see *Streptococcus pneumoniae*)

## Premarital Testing (see Rubella IgG Serology)

## *Pseudomonas spp*. Culture Isolation/ Identification (see Bacterial Culture, Aerobic)

## Pulsed Field Gel Electrophoresis (PFGE) for Enterics

Specimen Requirements: Send *Salmonella spp., Shigella spp*., toxin-producing *E. coli, Listeria spp*., and *Vibrio* isolates on solid media or on swab in Cary-Blair transport medium.

*Testing is performed at no cost for epidemiological purposes.

For public health surveillance, please submit all isolates of *Salmonella spp., Shigella spp*., toxin-producing *E. coli, Listeria spp.*, and *Vibrio*. *Campylobacter spp*. isolates are also encouraged when multiple isolates are identified.

**CPT Code:** None
Price: Fee Waived*

Transport Temperature: Ambient

## Pulsed Field Gel Electrophoresis (for other organisms)

Specimen Requirements: Send non-fastidious Gram negative rods or Gram positive isolates on solid media or on swab in Cary-Blair transport medium.

NOTE: Minimum of 3 isolates required. Please contact the laboratory in advance regarding availability of testing for that isolate, and for the necessary number of isolates.

**CPT Codes:**

83890 (molecular extraction)
Price: $34.50

83892 (enzymatic digestion)
Price: $26.50

83894 (enzymatic separation by gel electrophoresis)
Price: $26.50

83912 (interpretation and report)
Price: $26.50

Total Price: $114.00 per isolate

Transport Temperature: Ambient

# ***Q***

## Q Fever (*Coxiella burnetti*) Phase 1 and 2 IgG Serology by Indirect Immunofluorescence

Specimen Requirements: 1 mL serum
Paired acute and convalescent serum specimens are recommended.

Turn-around Time: Routinely batch tested once per week. Positive results are telephoned to the submitter.

**CPT Code:** 86638
Price: $22.00

Transport Temperature: 2-30°C (Refrigeration preferable)

## QuantiFERON – Gold (QFT – Gold) In-Tube Testing

This assay is an in vitro test for the determination of latent Tuberculosis infection and can be used as an alternative to the TB skin test (PPD).

Specimen Requirements: Stimulated plasma, obtained from vacutainer tubes specifically coated with antigens. Requires access to a 37°C incubator. Contact the laboratory for further information and specimen collection instructions and supplies. See collection

instructions.

Special pricing may be available when performing batch testing for one facility. Batch testing is defined as 20 or more specimens submitted from the same facility at the same time. Please call the laboratory for additional information or pricing.

**CPT Code:** 86480 (Single Test)
Price: $90.00

Transport Temperature: Ambient

# ***R***

## Rabies Detection for Diagnostic Purposes (Animal Testing)

Animal Testing - Not performed by our laboratory.
Refer specimens to the Veterinary Diagnostic Laboratory in Bozeman, (406) 994-4885

## Rabies Detection for Diagnostic Purposes (Human Testing)

Human Testing for Diagnostic Purposes - Consult the laboratory for specific sampling requirements and proper handling and transport. Consult with the Epidemiology Section (406) 444-0274

Human Diagnostic Testing is referred to the Centers for Disease Control, Atlanta, Georgia.
Turn-around Time: Preliminary results (PCR) are available as soon as possible, usually the same day as receipt.

**CPT Code:** None
Price: Fee Waived

Transport Temperature: Call for instructions

## Rabies Serology for Immune Status Antibody Testing by RFFIT

Testing not available through this laboratory

Testing available from:
Atlanta Health Associates, Alpharetta, Georgia (770) 667-8023
http://www.atlantahealth.net

Kansas State University, Manhattan, KS (785) 532-4483
http://www.ksvdl.org/rabies-laboratory/rffit-tests/

## Respiratory Syncytial Virus (RSV) Culture (See Respiratory Virus Culture)

## Respiratory Syncytial Virus (RSV) Direct Detection by Direct Fluorescence Assay

Specimen Requirements: Nasal washings or Nasopharyngeal (NP) swab in Universal Viral Transport Media. See collection instructions.

Turn-around Time: Performed each working day. Results are telephoned to the submitter.

**CPT Code:** 87280
Price: $26.00

Transport Temperature: 2-8°C

## Respiratory Virus Culture Isolation/Identification

Specimen Requirements: Throat or NP Swab, Nasal or Bronchial Washings, BAL in Universal Viral Transport Media, received within 48 hours of collection. See collection instructions.

Turn-around Time: Cultures are monitored for 2 weeks prior to reporting as negative. Positives results are telephoned to the

submitter.

NOTE: Respiratory specimens for virus isolation are screened for the presence of the following commonly isolated viruses: Adenovirus, Influenza A, Influenza B, Parainfluenza Type 1, 2, and 3, Respiratory Syncytial Virus, Enterovirus (including Echovirus and Coxsackie A & B), and Herpes Simplex Virus.

**CPT Codes:**
87252 (culture)
Price: $41.00

87253 (Virus ID) Each add'l ID
Price: $31.00

Transport Temperature: 2-8°C

## Retail Meat Testing (*Salmonella*)

Specimen Requirements: 25g minimum of ground beef or beef trim, 325g minimum of ready to eat meats, carcass sponges and environmental swabs. **Must be received within 24 hours of collection**.

Turn-around Time: 2 to 3 working days for negative samples; up to 5 days for a positive sample. Results are telephoned to the submitter.

**CPT Code:** None
Price: $65.00

Transport Temperature: 2-8°C within 24 hours

## Retail Meat Testing (*E. coli*)

Specimen Requirements: 375g minimum of ground beef or beef trim and chicken rinse samples. **Must be received within 24 hours of collection**.

Turn-around Time: 2 to 3 working days for negative samples; up to 5 days for a positive sample. Results are telephoned to the submitter.

**CPT Code:** None
Price: $65.00

Transport Temperature: 2-8°C within 24 hours

## Retail Meat Testing (*Listeria*)

Specimen Requirements: 25g minimum of ground beef, poultry or ready to eat meat samples, and environmental swabs. **Must be received within 24 hours of collection**.

Turn-around Time: 2 to 3 working days for negative samples; up to 5 days for a positive sample. Results are telephoned to the submitter.

**CPT Code:** None
Price: $70.00

Transport Temperature: 2-8°C within 24 hours

## Ricin Rapid Tests

Specimen Requirements: Environmental samples only

Turn-around Time: 1 to 3 working days. Call the laboratory prior to sending sample. Results are telephoned to the submitter.

**CPT Code:** None
Price: Fee Waived

Transport Temperature: Ambient

## Rickettsial Serology (see Rocky Mountain Spotted Fever, Typhus Fever Serology)

## *Rochalimea spp*. Culture Isolation/ Identification (see *Bartonella spp*. Culture)

## *Rochalimea spp*. Serology (see *Bartonella* Serology)

## Rocky Mountain Spotted Fever (RMSF) IgG Serology by Indirect Immunofluorescence

Specimen Requirements: 1 mL serum
Paired acute and convalescent serum recommended.

Turn-around Time: Routinely batch tested once per week. Positive results are telephoned to the submitter.

NOTE: Colorado Tick Fever testing will be automatically performed on all requests for Rocky Mountain Spotted Fever.

**CPT Codes:**

| | | |
|---|---|---|
| 86757 (RMSF) | 86790 (CTFV) | Total Price: $44.00 |
| Price: $22.00 | Price: $22.00 | |

Transport Temperature: 2-30°C (Refrigeration preferable)

## RSV (see Respiratory Syncytial Virus Direct Detection or Culture)

## Rubella IgG Serology by EIA

Specimen Requirements: 1 mL serum
Screen or paired acute and convalescent specimens
Please note that beginning in 2014, results will be reported in International Units (IU)

For premarital testing for Rubella immunity, download instructions and electronic forms at:
http://www.dphhs.mt.gov/publichealth/lab/environmental/documents/premaritalcertfillable.pdf

Turn-around Time: Routinely batch tested once per week. Significant results are telephoned to the submitter.

**CPT Code:** 86762
Price: $22.00

Transport Temperature: 2-30°C (Refrigeration preferable)

## Rubella IgM Serology by EIA

Specimen Requirements: 1 mL serum.
Collect specimen at least two (2) days after onset of rash, and include date of onset.

Turn-around Time: Performed each working day, as needed. Results are telephoned to the submitter.

**CPT Code:** 86762
Price: $39.00

Transport Temperature: 2-30°C (Refrigeration preferable)

## Rubeola (Measles) Culture Isolation/Identification

Specimen Requirements: Throat or NP Swab in Universal Viral Transport Media, received within 48 hours of collection. See collection instructions.

Turn-around Time: Cultures are monitored for 2 weeks prior to reporting as negative. Positive results are telephoned to the submitter.

**CPT Codes:**
87252
Price: $41.00

87253 (Virus ID) Each add'l ID
Price: $31.00

Transport Temperature: 2-8°C

## Rubeola (Measles) Direct Detection by Real Time PCR

Specimen Requirements: Throat, nasopharyngeal or nasal Dacron swabs in viral transport media or 50 ml minimum of urine. Urine should be centrifuged 2500xg for 15 min at 4° C. Resuspend sediment in 2 ml viral transport media.
*CSF may be submitted in meningitis/encephalitis-suspect cases with prior consult*

Note: Collect specimens as soon after the rash as possible. Detection is optimum with a collection the day one (1) through 3 (three) of rash onset.

Turn-around Time: 1 to 2 working days. Positive results are telephoned to the submitter.

**CPT Code:** 87798
Price: $100.00

Transport Temperature: 2-8° C within 24 hours or freeze at -70° C and transport on dry ice.

## Rubeola (Measles) IgG Serology by EIA

Specimen Requirements: 1 mL serum
Screen or paired acute and convalescent specimens.

Turn-around Time: Routinely batch tested once per week. Significant results are telephoned to the submitter.

**CPT Code:** 86765
Price: $22.00

Transport Temperature: 2-30°C (Refrigeration preferable)

## Rubeola (Measles) IgM Serology by Indirect Immunofluorescence

Specimen Requirements: 1 mL serum
Collect specimen at least two (2) days after onset of rash, and include date of onset.

Turn-around Time: Testing performed at North Dakota Public Health Laboratory as needed. Results are available within 2-3 days. Results are telephoned to the submitter.

**CPT Code:** 86765
Price: $27.00

Transport Temperature: 2-30°C (Refrigeration preferable)

# ***S***

## *Salmonella spp.* (including *S. typhi*) Culture Isolation/Identification

Specimen Requirements: Stool in Cary-Blair transport or other commercial enteric transport media, or isolate in Cary Blair transport or on solid media. See Enteric Panel for specific instructions.

Biochemically confirmed *Salmonella spp.* will be serotyped for epidemiologic purposes at no additional cost.

For public health surveillance, please submit all isolates of *Salmonella spp.* to the laboratory. See Enteric Isolate Surveillance.

Turn-around Time: 2 to 4 working days. Positive identification results are telephoned to the submitter.

**CPT Codes:**
87045 (Culture ID)
Price: $14.50

87077 (Each add'l ID)
Price: $20.00

Transport Temperature: 2-8°C for stool, ambient for isolates

## ***Shigella spp.*** **Culture Isolation/Identification**

Specimen Requirements: Stool in Cary-Blair Transport, or other commercial enteric transport media, isolate in Cary Blair transport or on solid media. See Enteric Panel for specific instructions.

For public health surveillance, please submit all isolates of *Shigella spp.* to the laboratory. See Enteric Isolate Surveillance.

Turn-around Time: 2 to 4 working days. Positive results are telephoned to the submitter.

**CPT Codes:**
87045 (Culture ID)
Price: $14.50

87077 (Each add'l ID)
Price: $20.00

Transport Temperature: 2-8°C for stool, ambient for isolates

## **Schistosoma Detection**

Specimen Requirements: Stool in formalin/PVA transports or urine in leak-proof sterile container

Turn-around Time: 1 to 2 working days. Positive samples are referred for confirmation to the Centers for Disease Control, Atlanta, Georgia

**CPT Codes:**
87177(Conc. ID)
Price: $23.00

87209 (Trichrome)
Price: $23.00

Transport Temperature: Ambient for stool, 2-8°C for urine

## **Sin Nombre Virus** **(see Hantavirus Serology)**

## ***Sporothrix*** **Culture Isolation/ Identification** **(see Fungal Culture)**

## **Schistosoma Serology by FAST-ELISA**

Specimen Requirements: 2 mL serum

Referred to the Centers for Disease Control, Atlanta, Georgia
Turn-around Time: 3 to 6 weeks

**CPT Code:** 86682
Price: $27.00

Transport Temperature: 2-30°C (Refrigeration preferable)

## ***Sporothrix*** **Serology by Latex and/or Tube Agglutination**

Specimen Requirements: 2 mL serum

Referred to the Centers for Disease Control, Atlanta, Georgia
Turn-around Time: 3 to 6 weeks

**CPT Code:** 86317
Price: $27.00

Transport Temperature: 2-30°C (Refrigeration preferable)

## ***Staphylococcus* spp. Culture Isolation/ Identification** (see Bacterial Culture, Aerobic)

## ***Staphylococcus* Enterotoxin B Rapid Tests**
Specimen Requirements: Environmental samples only

Turn-around Time: 1 to 3 working days. Call the laboratory prior to sending sample. Results are telephoned to the submitter.

**CPT Code:** None
Price: Fee Waived

Transport Temperature: Ambient

## **STEC (see *Escherichia coli* Shiga-Like Toxin Assay or Enteric Panel)**

## **St. Louis Encephalitis IgM Serology by EIA**
This test may be ordered individually. Due to the cross-reactivity of West Nile Virus (WNV) and St Louis Encephalitis Virus (SLE), SLE serology may be performed on specimens with a borderline WNV test result.

Specimen Requirements: 2 mL serum and/or 1 mL CSF
Date of onset is required, and the city or county of patient's residence is requested.

Referred to the Centers for Disease Control in Fort Collins, Colorado
Turn-around Time: 4 to 6 weeks

**CPT Code:** 86653
Price: $27.00

Transport Temperature: 2-30°C (Refrigeration preferable)

## **Stool Culture** (see Enteric Panel)

## ***Streptococcus* Group A Screen, Culture Method**
Specimen Requirements: Throat swab in silica gel

Turn-around Time: Cultures are monitored for 2 working days prior to reporting as negative. Positive results are telephoned to the submitter

**CPT Code:** 87081 (Culture screen)
Price: $35.00

Transport Temperature: Ambient

## ***Streptococcus pneumoniae* Culture Isolation/ ID** (see Bacterial Culture, Aerobic)

## ***Streptococcus spp*. Culture Isolation/ Identification** (see Bacterial Culture, Aerobic)

## ***Strongyloides* Detection** (see Ova and Parasite Exam)

## ***Strongyloides* Serology by EIA**
Specimen Requirements: 2 mL serum

Referred to the Centers for Disease Control, Atlanta, Georgia
Turn-around Time: 3 to 6 weeks

**CPT Code:** 86317

Price: $27.00

Transport Temperature: 2-30°C (Refrigeration preferable)

## Syphilis Serology Screen (Qualitative) by VDRL

Specimen Requirements: 2 mL serum or 1 mL CSF

Turn-around Time: Routinely batch tested twice per week. Positive results are reflexed to quantitative VDRL.

**CPT Code:** 86592
Price: $14.50

Transport Temperature: 2-30°C (Refrigeration preferable)

## Syphilis Serology Screen (Quantitative) by VDRL

Specimen Requirements: 2 mL serum or 1 mL CSF

Turn-around Time: Routinely batch tested twice per week. Significant results are telephoned to the submitter.

NOTE: Reflex confirmatory TP-PA testing is performed on all serum VDRL specimens with results of Reactive 2 dilutions or greater. Initial results of Weakly Reactive or Reactive 1 dil. should have a second specimen submitted.

**CPT Code:** 86593
Price $15.00

Transport Temperature: 2-30°C (Refrigeration preferable)

# ***T***

## Tick-borne Disease IgG Serology Panel by IFA, Bacterial Agglutination

Includes RMSF, CTFV, Q Fever, Tularemia and Brucella antibodies. The panel can be ordered with or without Lyme Disease antibodies.

Specimen Requirements: 3 mL serum
Paired acute and convalescent serum recommended.

Turn-around Time: Routinely batch tested once per week. Positive results are telephoned to the submitter. These tests may be ordered as a panel, but will be billed individually.

Note: Although not a tick-borne disease, Brucella testing is performed on all requests for Tularemia due to antigen cross reactivity.

**CPT Codes:**

| | | |
|---|---|---|
| 86757 (RMSF)<br>Price: $22.00 | 86638 (Q-Fever)<br>Price: $22.00 | 86618 Lyme Screen<br>Price: $35.00 |
| 86790 (CTFV)<br>Price: $22.00 | 86668 (Tularemia)<br>Price: $22.00 | 86622 (Brucella)<br>Price: $22.00 |
| | | Total Price: $145.00 |

Transport Temperature: 2-30°C (Refrigeration preferable)

## Tick-borne Relapsing Fever (see *Borrelia hermsii* Serology)

## Toxic Screen, Rapid Chemical Exposure

Call ahead for information on proper collection, packaging, and transport and shipment of blood and urine specimens.

Prior arrangements must be made with the laboratory.

Referred to the Centers for Disease Control, Atlanta, Georgia
Turn-around Time: 36 hours

**CPT Code:** None
Price: Fee Waived

## ***Toxocara* Serology by EIA**

Specimen Requirements: 2 mL serum

Referred to the Centers for Disease Control, Atlanta, Georgia
Turn-around Time: 3 to 6 weeks

**CPT Code:** 86317
Price: $27.00

Transport Temperature: 2-30°C (Refrigeration preferable)

## ***Treponema pallidum* (See Syphilis Serology or *Treponema pallidum* Particle Agglutination Assay)**

## ***Treponema pallidum* Particle Agglutination Assay**

Specimen Requirements: 2 mL serum

Turn-around Time: Routinely batch tested once per week. Positive results are telephoned to the submitter.

**CPT Code:** 86780
Price: $35.00

Transport Temperature: 2-30°C (Refrigeration preferable)

## **Trichinella Serology**

Specimen Requirements: 2 mL serum

Referred to the Centers for Disease Control, Atlanta, Georgia
Turn-around Time: 3 to 6 weeks

**CPT Code:** 86784
Price: $27.00

Transport Temperature: 2-30°C (Refrigeration preferable)

## **Trypanosomiasis Serology (including *Trypanosoma cruzi* / Chagas Disease)**

Specimen Requirements: 2 mL serum

Referred to the Centers for Disease Control, Atlanta, Georgia
Turn-around Time: 3 to 6 weeks

**CPT Code:** 86682
Price: $27.00

Transport Temperature: 2-30°C (Refrigeration preferable)

## ***Trypanosomiasis* Detection (including *Trypanosoma cruzi* / Chagas Disease)**

Specimen Requirements: Blood smear, unstained or stained with Wright's or Giemsa.

Turn-around Time: 1 to 2 working days. Positive smears are referred for confirmation to the Centers for Disease Control, Atlanta,

Georgia

**CPT Code:** 87207
Price: $31.00

Transport Temperature: Ambient

## Tuberculosis (See *Mycobacterium spp.*)

## Tularemia Culture (See *Francisella tularensis* culture)

## Tularemia Serology (See *Francisella tularensis* serology)

## Typhoid Fever (see Enteric Panel or *Salmonella spp.*)

## Typhus Fever IgG Serology by Indirect Immunofluorescence

Specimen Requirements: 2 mL serum
Paired acute and convalescent serum specimens are recommended.

Referred to the Centers for Disease Control, Atlanta, Georgia
Turn-around Time: 3 to 6 weeks

**CPT Code:** 86256
Price: $27.00

Transport Temperature: 2-30°C (Refrigeration preferable)

# ***U***

# ***V***

## Vancomycin Resistant Enterococci (VRE) (See Antimicrobial Resistant Bacteria Confirmation)

## Varicella Zoster Virus (VZV) Direct Detection by Real Time PCR

Specimen Requirements: Vesicular lesion swab in Universal Viral Transport Media. See specific instructions.

Turn-around Time: 1 to 3 working days. Positive results are telephoned to the submitter.

**CPT Code:** 87798
Price: $100.00

Transport Temperature: 2-8°C

## Varicella Zoster Virus (VZV) (Herpes Zoster Virus) IgG Serology by EIA

Specimen Requirements: 1 mL serum
Screen or paired acute and convalescent specimens.

Turn-around Time: Routinely batch tested once per week; available each working day, as needed. Significant and STAT results are telephoned to the submitter.

To qualify for STAT testing, all of the following criteria must be met:

1. The patient is at high risk for complications and has been recently exposed to a known case of chickenpox. High risk patients are defined as immunocompromised persons, pregnant women, premature infants whose mothers are not immune, premature infants < 28 weeks gestation, and premature infants < 1000 grams at birth
2. The patient does not have a history of chicken pox and/or does not know their immune status.

3. Exposure has been recent enough that the 96-hour window for administration of VZIG is achievable if the testing determines the patient to be susceptible to VZV infection.

**CPT Code:** 86787
Price: $22.00

Transport Temperature: 2-30°C (Refrigeration preferable)

## Varicella Zoster (VZV) (Herpes Zoster) Virus Culture Isolation/Identification

Specimen Requirements: Specimen, usually vesicular fluid, in Universal Viral Transport Media, received within 48 hours of collection. See collection instructions.

Turn-around Time: Cultures are monitored for 1 month prior to a negative report. Positive results are telephoned to the submitter.

**CPT Codes:**
87252 (culture)
Price: $41.00

87253 (Virus ID) Each add'l ID
Price: $31.00

Transport Temperature: 2-8°C

## VDRL Serology (see Syphilis Serology)

## *Vibrio spp.* Culture Isolation/ Identification

Specimen Requirements: Stool in Cary-Blair transport, or other commercial enteric transport media, or isolate submitted in Cary-Blair transport or on solid media. Specify agent on request form.

Turn-around Time: 2 to 4 working days. Positive results are telephoned to the submitter.

**CPT Codes:**
87046 (Culture ID)
Price: $14.50

87077 (Each add'l ID)
Price: $20.00

Transport Temperature: 2-8°C for stool, ambient for isolates

## Virus Culture Isolation/Identification

Specimen Requirements: Specimen in Universal Viral Transport Media, received within 48 hours of collection. See collection instructions.

Turn-around Time: Cultures are monitored for 2 weeks prior to a negative report. Positive results are telephoned to the submitter.

NOTE: Specimens for virus isolation are screened for the presence of the following commonly isolated viruses: Adenovirus, Influenza A, Influenza B, Parainfluenza Type 1, 2, and 3, Respiratory Syncytial Virus, Enterovirus (including Coxsackie A & B and Echovirus) and Herpes Simplex Virus.

**CPT Codes:**
87252 (culture)
Price: $41.00

87253 (Virus ID) Each add'l ID
Price: $31.00

Transport Temperature: 2-8°C

# ***W***

## West Nile Virus IgG Serology by EIA

Specimen Requirements: 1 mL serum. Paired acute and convalescent specimens recommended.
Date of onset is required, and the city or county of patient's residence is requested.

Turn-around Time: Routinely batch tested once per week; during seasonal outbreaks, testing may be performed each working day, depending on workload. Positive results are telephoned to the submitter.

**CPT Code:** 86789
Price: $22.00

Transport Temperature: 2-30°C (Refrigeration preferable)

## West Nile Virus (WNV) IgM Serology by EIA

NOTE: Serology is the recommended method of testing for WNV in both serum and cerebral spinal fluid (CSF), because viremia (as detected by PCR) is very transient.

Specimen Requirements: 1 mL serum and/or 1 mL CSF
Date of onset is required, and the city or county of patient's residence is requested.

NOTE: Negative results on specimens drawn less than 9 days from date of onset should have a convalescent serum tested if active disease is suspected.

Turn-around Time: Routinely batch tested once per week; during seasonal outbreaks, testing may be performed each working day, depending on workload. Positive results are telephoned to the submitter. Certain specimens may be referred to the Centers for Disease Control in Fort Collins, Colorado for confirmation using more specific Plaque Reduction Neutralization tests, and equivocal (borderline) results may be reflexed to St. Louis Encephalitis IgM Serology.

**CPT Code:** 86788
Price: $22.00

Transport Temperature: 2-30°C (Refrigeration preferable)

# ***X***

# ***Y***

## Yeast Culture (see Fungal Culture)

## *Yersinia enterocolitica* Culture Isolation/Identification

Specimen Requirements: Stool in Cary-Blair transport, or other commercial enteric transport media, or isolate submitted in Cary-Blair transport or on solid media. Specify agent on request form.

Turn-around Time: 2 to 4 working days. Positive results are telephoned to the submitter.

**CPT Codes:**
87046 (Culture ID)
Price: $14.50

87077 (Each add'l ID)
Price: $20.00

Transport Temperature: 2-8°C for stool, ambient for isolates

## *Yersinia pestis* Culture Isolation/ Identification/Rapid Test Methods

Specimen Requirements: Isolate submitted on solid medium or tissue transported cold in sterile saline. Call the laboratory for special instructions regarding environmental samples and rapid test methods.

A suspect *Y. pestis* culture requires Infectious Disease packaging (Class 6.2) and trackable shipping. Please notify the laboratory by telephone at time of shipment.

Turn-around Time: Cultures will be held for 7 to 10 days before reporting as negative. Results are telephoned as soon as possible to the submitter. Rapid test methods are performed in Molecular Diagnostics and are available within 6 - 8 hours of specimen receipt.

**CPT Codes:**

87081 (Culture screen)
Price: $35.00

87798 (PCR)
Price: Fee Waived

Transport Temperature: 2-8°C for tissue, ambient for isolates

## ***Yersinia pestis* Rapid Test Methods (see *Yersinia pestis* Culture Isolation)**

## ***Yersinia pestis* Serology by Passive Hemagglutination**

Specimen Requirements: 2 mL serum

Referred to the Centers for Disease Control, Fort Collins, Colorado
Turn-around Time: 4 to 6 weeks

**CPT Code:** 86793
Price: $27.00

Transport Temperature: 2-30°C (Refrigeration preferable)

***Z***

# Collection and Transport of Specimens

## Chlamydia/Gonorrhea Amplified Testing Collection and Transport

The Unisex Swab Specimen Collection Kit, Vaginal Swab Specimen Collection Kit, and Urine Specimen Collection Kit are stored at room temperature.

**Endocervical Swab Collection**

1. Use the Unisex Swab Specimen Collection Kit (white label).
2. Remove excess mucus from the cervical os and surrounding mucosa using the white shafted cleansing swab. Discard the white shafted swab.
3. Insert the blue shafted specimen collection swab into the endocervical canal.
4. Gently rotate the swab clockwise for 10 to 30 seconds in the endocervical canal to ensure adequate sampling.
5. Withdraw the swab carefully; avoid any contact with the vaginal mucosa.
6. Remove the cap from the swab specimen transport tube and immediately place the specimen collection swab into the transport tube.
7. Carefully break the blue swab shaft at the score line; use care to avoid splashing of contents.
8. Re-cap the swab specimen transport tube tightly.
9. Specimens should be clearly labeled with two patient identifiers (name, DOB, medical record number, etc.) and the collection date.

**Vaginal Swab Collection**

1. Use the Vaginal Swab Specimen Collection Kit (orange label).
2. Patient can collect own specimen in a health care facility. Vaginal swab collection is preferred over urine collection in women when a pelvic examination is not performed.
3. Insert the specimen collection swab into the vagina about two inches inside the opening of the vagina.
4. Gently rotate the swab clockwise for 10 to 30 seconds touching the walls of the vaginal to ensure adequate sampling.
5. Withdraw the swab carefully; avoid any contact with skin.
6. Remove the cap from the swab specimen transport tube and immediately place the specimen collection swab into the transport tube.
7. Carefully break the swab shaft at the score line; use care to avoid splashing of contents.
8. Re-cap the swab specimen transport tube tightly. Make certain the transport tube is labeled with a minimum of patient name; collection date is also helpful.

**Male Urethral Swab Collection**

1. Use the Unisex Swab Specimen Collection Kit (white label).
2. The patient should not have urinated for at least one hour prior to sample collection.
3. Insert the blue shafted specimen collection swab 2 – 4 cm into the urethra.
4. Gently rotate the swab clockwise for 2 to 3 seconds in the urethra to ensure adequate sampling.
5. Withdraw the swab carefully.
6. Remove the cap from the swab specimen transport tube and immediately place the specimen collection swab into the transport tube.
7. Carefully break the blue swab shaft at the score line; use care to avoid splashing of contents.
8. Re-cap the swab specimen transport tube tightly.
9. Specimens should be clearly labeled with two patient identifiers (name, DOB, medical record number, etc.) and the collection date.

**Rectal Swab Collection**

1. Use the Unisex Swab Specimen Collection Kit (white label).
2. Use the small blue shafted collection swab, not the larger white shafted cleansing swab.
3. Insert the small blue shafted collection swab approximately 3 – 5 cm into the rectum and rotate against the rectal wall several times (at least 3 times).
4. Swabs that are grossly contaminated with feces should be discarded and the collection repeated.
5. Withdraw the swab carefully.
6. Remove the cap from the swab specimen transport tube and immediately place the specimen collection swab into the transport tube.

7. Carefully break the blue swab shaft at the score line; use care to avoid splashing of contents.
8. Re-cap the swab specimen transport tube tightly.
9. Specimens should be clearly labeled with two patient identifiers (name, DOB, medical record number, etc.) and the collection date.

**Throat Swab Collection**

1. Use the Unisex Swab Specimen Collection Kit (white label).
2. Use the small blue shafted collection swab, not the larger white shafted cleansing swab.
3. Using a tongue depressor, insert the small blue shafted collection swab and vigorously rub the tonsils and the posterior pharynx.
4. Carefully remove the swab, not touching any area of the mouth.
5. Remove the cap from the swab specimen transport tube and immediately place the specimen collection swab into the transport tube.
6. Carefully break the blue swab shaft at the score line; use care to avoid splashing of contents.
7. Re-cap the swab specimen transport tube tightly.
8. Specimens should be clearly labeled with two patient identifiers (name, DOB, medical record number, etc.) and the collection date.
9. Complete the requisition form; be sure to record the specimen source.

**Urine Collection**

1. Use the Urine Specimen Collection Kit (yellow label).
2. The patient should not have urinated for at least one hour prior to sampling.
3. Direct patient to provide a first-catch urine (approximately 20 to 30 mL of the initial urine stream) into a urine collection cup. Collection of larger volumes of urine may reduce test sensitivity. Female patients should not cleanse the labial area prior to providing the specimen. This is NOT a clean-catch urine – we want the initial urine stream which contains sloughed cells.
4. Remove the cap and transfer 2 mL of urine into the urine specimen transport tube using the disposable pipette provided. The correct volume of urine has been added when the fluid level is between the black lines on the urine specimen transport tube label.
5. Re-cap the urine specimen transport tube tightly. This is now known as the processed urine specimen.
6. Specimens should be clearly labeled with two patient identifiers (name, DOB, medical record number, etc.) and the collection date.

**Swab and Urine Specimen Transport**

After collection, ensure that specimens are properly labeled.
Fill out the standard laboratory request form.
Place the corresponding transport tube in an individual zip lock bag containing absorbent material and seal bag tightly. Place the form in the sleeve of the zip lock bag; DO NOT put the request form inside the zip lock bag.
Store swab specimen transport tubes and processed urine specimens (those in urine specimen transport tubes) at 2°C to 30°C. Place transport tubes in white mailing canisters and send to the laboratory by mail or courier.

NOTE: Although swab specimens in the specimen transport tube must be tested within 60 days of collection and urine specimens in the specimen transport tube must be tested within 30 days of collection, we advise you to submit specimens in a timely manner so that test results can be obtained as soon as possible.

Utilize the MTPHL courier service if available, or ship specimens to the following address:
Montana Public Health Laboratory
(Street Address)
1400 Broadway
Helena, MT 59601

Or
PO Box 4369
Helena, MT 59604-4369

**Result Reporting**
Positive results are telephoned to the provider; additionally, positive GC results are telephoned to the DPHHS STD Program.

**Specimen Rejection**
Specimens with unresolved labeling issues, leaking containers, expired containers, or with insufficient volume may be rejected. The provider will be notified and asked to resubmit.

**Requests for Additional Information or Specimen Collection Questions:**
For additional information or questions, or to order collection kits, contact the laboratory at 800-821-7284 or 406-444-3444.

## Molecular (Nucleic Acid Amplification) Testing Collection and Transport

For technical assistance in determining proper specimen selection for specific agents, call the laboratory at 800-821-7284.

Universal Viral Transport Media for Viral Agents is supplied by the laboratory. Store the kits at room temperature.

| | |
|---|---|
| Bronchial Alveolar Lavage (BAL) /Bronchial Washings | For Viral Agents, mix an equal portion of the BAL with Universal Viral Transport Media. Store in cold conditions and ship on cold packs.<br><br>For Bacterial Agents, collect in sterile container. Store in cold conditions and ship on cold packs. |
| Cerebral Spinal Fluid (CSF) | Place 1 – 2 mL in sterile container without transport. Store in cold conditions and ship on cold packs. |
| Cervical Swab | Place swab into Universal Viral Transport Media, break off at the score line, and tightly cap. Store in cold conditions and ship on cold packs. |
| Nasopharyngeal Aspirate | Introduce 1-2 mL of sterile saline into the nasopharyngeal cavity, aspirate into sterile vial. Store in cold conditions and ship on cold packs. ***Note: If the specimen is also being submitted for viral agents, please submit in Universal Viral Transport Media. Store in cold conditions and ship on cold packs.* |
| Nasopharyngeal Wash | Use only sterile saline to collect the NP wash. Instruct the patient to sit with head slightly tilted backwards, and to hold the sterile collection cup. Instruct the patient on how to constrict the muscles at the back of the throat by saying the "K" sound rapidly and repetitively. Inform the patient that this process may prevent the saline from draining down the throat. Fill a 5 cc syringe with warm sterile saline. Gently push the tip of the patient's nose back with your thumb, and quickly inject 1 – 2 mL of sterile saline into each nostril. Instruct the patient to contain the saline in the nostrils for approximately 10 seconds while repetitively saying the "K" sound. After 10 seconds, ask the patient to tilt their head forward and collect the saline in the sterile cup. Cap the washings tightly. Refrigerate the nasopharyngeal washings until transport and ship on cold packs. **Note: If the specimen is also being submitted for viral agents, please submit in Universal Viral Transport Media. Store in cold conditions and ship on cold packs.* |
| Nasopharyngeal Swab | Use a flexible wire dacron or polyester swab. Do not use Calcium Alginate swabs. Instruct the patient to sit with head slightly tilted backwards. Bend the flexible wire in a small arc, and insert the swab into the nostril back to the nasopharyngeal cavity. The patient's eyes will momentarily tear. Slowly rotate the swab as it is being withdrawn.<br><br>For Viral Agents, place swab into Universal Viral Transport Media, trim swab shaft, and tightly cap. Store in cold conditions and ship on cold packs.<br><br>For Bacterial Agents, place swab in sterile tube without transport. |
| Serum | Collect 5-10 mL of whole blood in serum separator tube. Allow blood to clot, centrifuge and aliquot resulting sera. Store in cold conditions and ship on cold packs. If serum has already been frozen, ship on dry ice. |
| Stool | Collect at least 2 mL of stool in a leak-proof, clean, dry container. Do not add transport media. Store in cold conditions and ship on cold packs. |
| Throat Swab | Use a plastic shafted Dacron swab. Do not use Calcium Alginate swabs. Using a tongue depressor, insert the swab and vigorously rub the tonsils and the posterior pharynx. Carefully remove the swab, not touching any area of the mouth.<br><br>For Viral Agents, place swab into Universal Viral Transport Media, trim swab shaft, and tightly cap. Store in cold conditions and ship on cold packs. |

| | |
|---|---|
| | For Bacterial Agents, place swab in sterile tube without transport. |
| Tissue Specimens<br>Autopsy or Biopsy | For Viral Agents, place each specimen in separate sterile containers containing small amounts of Universal Viral Transport Media. Store and ship on cold packs or dry ice. *Do Not submit formalized tissue.*<br><br>For Bacterial Agents, place each specimen in separate sterile containers containing small amounts of sterile saline or PBS. Store and ship on cold packs. *Do Not submit formalized tissue.* |
| Vesicles/Vesicular Fluid/ Scrapings | Aspirate fluid from multiple fresh unbroken vesicles and place into 1-2 mL of Universal Viral Transport Media. Remove the top of the vesicle and place the skin of the vesicle top into a sterile tube without transport. Store both samples in cold conditions and ship on cold packs. |
| Whole Blood | Collect 5 -10 mL whole blood in EDTA anticoagulant. Store in cold conditions and ship on cold packs. |

Specimens should be clearly labeled with two patient identifiers (name, DOB, medical record number, etc.) , collection date and specimen source. Place each specimen container in an individual biohazard zip lock bag containing absorbent material and seal bag tightly.

Fill out the standard laboratory request form completely and place in the outer sleeve of the biohazard zip lock bag. Do not place the request form inside the biohazard zip lock bag.

Ship specimens promptly, maintaining cold temperature from collection until receipt at the laboratory. For those specimens that must be shipped in a cold condition, use cold packs and Styrofoam containers. Mailers will be returned for reuse. Transport by mail or courier.

## *Mycobacterium spp.* (AFB or TB) Testing Collection and Transport

All specimens are potentially infectious; handle carefully.

| | |
|---|---|
| Sputum or Nebulized Sputum | Collect three early morning specimens on successive days (within 48 hours) and submit daily in separate containers. Good specimens are material brought up by the lungs after a productive cough or nebulization. Send a minimum of 5 mL in a sterile container. |
| Urine | Collect multiple first morning "clean catch" specimens on three successive days. Send a minimum of 40 mL in a sterile container. |
| Gastric | Collect three early morning fasting specimens on successive days. Send a minimum of 10 mL in a sterile container. Add 10 mg of sodium bicarbonate to neutralize the acidity. Send promptly after collection; these specimens should be processed as soon as possible. |
| Bronchial Washings | Submit first sputum specimen following bronchoscopy as well as the bronchial washings. Send a minimum of 5 mL in a sterile container. |
| Tissues | Collect aseptically and place in sterile container. Add about 1 mL sterile broth or sterile saline to tissues and swabs to prevent dehydration. |
| CSF or Other Sterile Body Fluids | Submit in sterile collection tube; at least 2 mL is needed for an adequate test. |
| Blood or Bone Marrow | Collect in heparinized tube or add sterile heparin (0.2 mg/mL) to prevent clotting. Send a minimum of 1 mL in a sterile container. |
| Stool | Submit 1 gram of raw stool in a sterile container. Send on ice. |
| Swab (Not Optimal) | Specimens submitted on swabs are discouraged. Please make every effort to submit tissue or aspirated fluid, as these are preferred sources. |

Use only sterile materials in the collection of the specimen. Collect specimen directly into the sterile bottle provided or into a sterile container, refrigerate specimen until transported, and send as soon as possible. Specimens should be clearly labeled with two patient identifiers (name, DOB, medical record number, etc.) and collection date.
Screw lid onto specimen container tightly so specimen does not leak; place each specimen container in an individual biohazard zip lock bag containing absorbent material and seal bag tightly.

Fill out the standard laboratory request form. Place form in outside sleeve of biohazard zip lock bag and put into TB mailing container. Respiratory specimens should be packaged and transported cold by mail or courier. All other specimens may be transported at ambient temperature.

## Mycology (Fungal) Culture Collection and Transport

| | |
|---|---|
| Tissue | Place tissue in sterile screw cap container and cover with 1 mL of sterile saline or broth. Refrigerate until time of mailing. |
| Blood | Collect 8 mL blood aseptically in a yellow Vacutainer tube (contains 0.05% SPS). This specimen can be used to inoculate a vented biphasic blood culture bottle containing TSB, TSA, or BHI agar and broth in a ratio of 1 part blood to 10 parts broth. Incubate at room temperature. Subculture onto Sabouraud's agar slants according to established procedures. Submit either slants or blood culture bottles for culture identification. |
| Bone marrow | Collect approximately 0.3 mL of bone marrow in a heparinized tube. Store specimen at room temperature or incubate until mailing. Ship in sterile screw cap container. |
| Bronchial wash, Pleural fluid, Joint fluid, Sputum | Send in sterile screw cap container. May be sent in TB transport container. Refrigerate specimen until mailing. |
| CSF | Send a minimum of 1.0 mL in sterile screw cap container. Store specimen at room temperature or incubate until mailing. |
| Hair | Remove about 10 hairs with roots using forceps; place hairs between clean glass slides or in clean envelope. Wrap slides in paper and tape closed. Send in mailer. NOTE: Hairs that break off at scalp level when using forceps must be removed with a knife. Scraping the scalp rarely yields infected hairs. Store and transport at room temperature. |
| Skin | Wipe lesions well with alcohol sponge (cotton will leave too many fibers on skin). Scrape the entire periphery of the lesion(s) with a sterile scalpel. Place scrapings between two clean glass slides as discussed under hair, or in an envelope. Send in mailer. Store and transport at room temperature. |
| Nails | Clean nail with alcohol sponge. Scrape and discard outer portion of nail. Collect scrapings from inner nail and send in envelope or between glass slides. Send an entire nail, if it has been removed, in a sterile screw cap container. Store and transport at room temperature. |

Please Note: Both a TB culture and a fungal culture can be processed from a single specimen by request. Make certain that test request form is clearly marked.

Place each specimen container in an individual biohazard zip lock bag containing absorbent material and seal bag tightly. Specimens should be clearly labeled with two patient identifiers (name, DOB, medical record number, etc.) and collection date.

Fill out the standard laboratory request form. Place form in outside sleeve of biohazard zip lock bag and put into mailing container. Transport at ambient temperature by mail or courier.

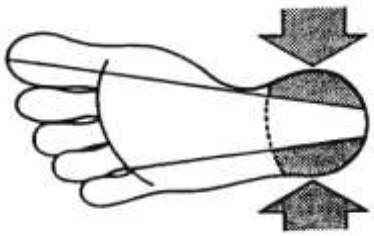
## Newborn Screening Collection and Transport

Newborn screening specimen cards for collection of dried blood spot samples are available from the laboratory. See Supply Request Form. These forms contain the requisition form along with the attached filter paper collection device.

Store specimen cards in a cool dry place on edge; flat stacking compresses the filter paper fibers. Do not handle the filter paper portion, as skin oils will prevent saturation.

Complete all the information on the requisition form legibly in block capital letters.

**Sample Collection**
The usual puncture site is illustrated below (shaded areas).



1. Sterilize and dry skin. Puncture heel with sterile lancet.

2. Allow large blood droplet to form.

3. Touch filter paper to blood and allow to soak through completely in each circle. Total saturation of the circles must be evident when the paper is viewed on both sides. Do not apply blood to both sides.

4. Be certain to properly fill all 5 circles on the card. These need to all be satisfactory spots.

5. Use of capillary tubes is not recommended because they tend to roughen the filter paper and cause over absorption.

6. Allow blood spots to air dry thoroughly for 2-3 hours at room temperature. Keep away from direct sunlight and heat. Do not stack filter papers before thorough drying. Protective cover can be used to hold specimen while drying.

7. Cover with end flap only after specimen is completely dry.

8. Inspect the dried blood spots for adequacy prior to transport. Do not send unsatisfactory specimens.

9. Transport specimen by mail or courier at ambient temperature within 24 hours of collection.

Note: Specimens may be UNSATISFACTORY if:

- All circles not completely filled (QNS)
- Blood is layered by application on both sides or by multiple spotting
- Filter paper is scuffed or torn
- Specimen is contaminated or improperly dried
- Information is incomplete

## Capillary (Fingerstick Specimens) for Blood Lead Collection and Transport

**Collection supplies are available free of charge by contacting the laboratory. Kits include:**

| | | |
|---|---|---|
| 2 Sterile Alcohol Preps | 1 Capillary collection device | 1 Transport zip lock bag |
| 1 Lancet | 1 Dry Sterile Gauze Pad | 1 Instruction sheet |

**Performing the Skin Puncture:**

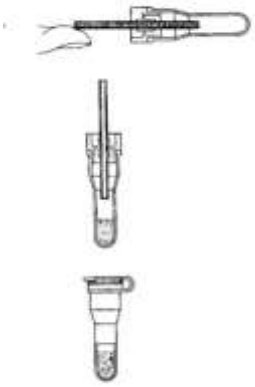
1. Thoroughly wash hands and don powder free gloves.
2. Select the puncture site. Blood can be obtained from:
   - fingertip (for adults and children older than 1 year)
   - the bottom of the big toe (infants only)
   - the heel (infants only)
3. Clean the puncture site with alcohol pad. If the site is extremely soiled or very cold, wash with warm soapy water and towel dry. Use the alcohol swab to briskly scrub the puncture site to remove any environmental contamination and to increase blood flow.
4. Allow the site to air dry or use the sterile gauze to dry the area.
5. Puncture the skin with the lancet.

**Collection of the Sample:**

1. Use the gauze to wipe off the first drop of blood, which contains excess tissue fluid. A rounded drop of blood will form over the puncture site. When the tip of the collection device touches this drop, blood will flow by capillary action into the tube. Care should be taken that the tip of the collection device is in contact with the blood only, not skin.
   Gently apply continuous pressure to the surrounding tissue; avoid milking the site.

   **Important:** The flow of blood must be adequate enough to fill the capillary rapidly. Do not stop to shake or tap the tube until the capillary is filled.

   **Important:** Capillary must be held continuously in a horizontal position during the drawing of the blood
2. After filling, turn the capillary device immediately to a vertical position to allow the blood to flow into the tube. Remove capillary with holder at the same time. Close tube with attached cap.
3. Apply pressure to the puncture site with a gauze pad to stop bleeding, while mixing the specimen by inverting a minimum of five times.
4. Identify each skin puncture specimen with the patient's name and collection date.



**Submitting Specimens to the Laboratory for Testing:**

1. Specimens should be clearly labeled with two patient identifiers (name, DOB, medical record number, etc.) and collection date.
2. Complete a standard laboratory request form to include the patient's name, date of birth, gender, collection date, submitter information, and, if applicable, Medicaid billing information.
3. Place the well mixed blood specimen container into the individual biohazard zip lock transport bag and seal bag tightly. Fold the requisition form and place in sleeve of the bag. Place the zip lock bag(s) into a preaddressed white mailing canister. Store the specimen(s) in the refrigerator until shipped. Specimens are stable for 7 days at refrigeration temperatures.
4. Specimens are transported at ambient temperature by mail or courier.

**Results:**

1. Laboratory test results will be mailed to the submitter upon completion of testing.
2. Should the initial test be elevated, a venous specimen will be requested for verification.

## Venipuncture Specimens for Blood Lead Collection and Transport

Collection supplies are available free of charge by contacting the laboratory.

**The Venipuncture Collection Kit includes:**

1 Sterile Alcohol Preps
1 Needle and Holder or 1 Needle and syringe
1 Transport zip lock bag
1 Dry Sterile Gauze Pad
1 Vacutainer EDTA tube
1 Instruction sheet

**Preparation of the Puncture Site:**

1. Thoroughly wash hands and don powder free gloves.
2. Expose the selected antecubital fossa and apply tourniquet to mid-biceps. Scrub the puncture site briskly with the alcohol pad to remove any environmental contamination and to increase blood flow.
3. Allow the site to air dry or use the sterile gauze to dry the area.

**Collection of the Sample:**

1. Prepare needle assembly, either needle and vacutainer holder, or needle and syringe.
2. Perform venipuncture per standard operating procedures. Make sure the vacutainer tube is completely filled before stopping collection. If using a needle and syringe, obtain a minimum of 2 mL of whole blood.
3. Remove tourniquet first, then needle from arm.
4. Apply pressure to the puncture site with a gauze pad to stop the patient's bleeding. Parent/guardian or child may continue holding direct pressure on the puncture site.
5. If drawn directly into vacutainer tube, immediately mix the specimen manually by inverting a minimum of 10 times.
6. If drawn with a needle into the syringe, immediately inject the blood from the syringe into the vacutainer tube, gently mixing while filling. Continue to mix the specimen by inverting 10 times.
7. Dispose of used needle and syringe equipment into puncture proof Sharps container.
8. Identify each skin puncture specimen with the patient's name, at a minimum, and collection date.

**Submitting Specimens to the Laboratory for Testing:**

1. Specimens should be clearly labeled with two patient identifiers (name, DOB, medical record number, etc.) and collection date.
2. Complete a standard laboratory request form to include the patient's name, date of birth, gender, collection date, submitter information, and, if applicable, Medicaid billing information.
3. Place the well mixed, unclotted blood specimen in an individual biohazard zip lock bag containing absorbent material and seal bag tightly. Fold the requisition form and place in sleeve of the bag. Place the zip lock bag(s) into a preaddressed white mailing canister.
4. Store the specimen(s) in the refrigerator until shipped. Specimens are transported at ambient temperature by mail or courier. Specimens are stable for 7 days at refrigeration temperatures.

**Results:**

Laboratory test results will be mailed to the submitter upon completion of testing.

# QuantiFERON®-TB Gold In-Tube Testing Collection and Transport

The QuantiFERON-TB Gold assay (QFT®) measures the Interferon-gamma (IFN-γ) response in whole blood stimulated with antigen. The kit uses specialized QFT blood collection tubes. The following is a guide for blood collection into these tubes.

***Please read and follow the complete directions carefully!***

**Filling QuantiFERON®-TB Gold blood collection tubes**

QuantiFERON®-TB Gold IT uses the following collection tubes; the set will be provided for you free of charge by calling 800-821-7284, or e-mailing mtphl@mt.gov.

1. Nil Control (Grey cap with yellow ring). The yellow designates a high altitude tube.
2. TB Antigen (Red cap with yellow ring).
3. Mitogen Control (Purple cap with yellow ring).

**These procedures should be followed for optimal results:**

1. Tubes should be at 17 - 25°C at the time of blood filling.
2. Collect 1 mL of blood by venipuncture directly into each QFT blood collection tube in the order Nil, TB-Antigen and Mitogen. As 1 mL tubes draw blood relatively slowly, keep the tube on the needle for 2-3 seconds once the tube appears to have completed filling to ensure that the correct volume is drawn.
3. The black mark on the side of the tubes indicates the 1 mL fill volume. QFT blood collection tubes have been validated for volumes ranging from 0.8 to 1.2 mL. If the level of blood in any tube is not close to the indicator line, it is recommended to obtain another blood sample.
   *•If a "butterfly needle" is used, prime tubing with a "purge" tube before filling the QFT tubes.*

**Mixing Tubes**

1. Antigens have been dried onto the inner wall of the blood collection tubes. It is essential that the tubes' contents be thoroughly mixed with the blood. Thorough mixing will dissolve the heparin, preventing clotting, and allow resolubilization of the stimulating antigen. Mixing is performed by shaking, not just inverting, the tubes ten (10) times firmly enough to ensure that the entire inner surface of the tube is coated with blood. **Over-energetic shaking may cause gel disruption and could lead to aberrant results.**
2. Label tubes appropriately. Ensure each tube (Nil, TB Antigen, Mitogen) is identifiable by its label or other means once the cap is removed.

**Incubation of Tubes**

1. Following filling, shaking and labeling, the tubes must be transferred to a 37°C ± 1°C incubator as soon as possible, and within 16 hours of collection. If the blood is not incubated immediately after collection, re-mixing of the tubes by inverting 10 times must be performed immediately prior to incubation.
2. Incubate the tubes **UPRIGHT** at 37°C ± 1ºC for 16 to 24 **consecutive** hours. The incubator does not require $CO_2$ or humidification.
3. If tubes are not incubated on site, maintain tubes at room temperature (22°C ± 5°C). Do not refrigerate or freeze the blood samples. Tubes must be received in the Public Health Laboratory within 16 hours of collection for incubation.
4. Following 37ºC ± 1ºC incubation, blood collection tubes may be transported between 2°C and 27°C. **Specimens must be received in the Public Health Laboratory within 3 days of incubation. If this is not possible, call MTPHL for direction.**
5. Complete a blue MTPHL requisition form; **include date and TIME of draw,** and **whether** or not **the specimen(s) have been incubated** prior to shipment**.** Please note this information in the Comments/Pertinent Information section of the blue form.

An illustrated Quick Guide for Blood Collection is available at http://www.cellestis.com/. Click on the links: QuantiFERON Products, QuantiFERON®-TB Gold In-Tube, Technical Resources, Technical Documents, and Blood Collection Quick Guide.

**QUESTIONS? Contact the MTPHL at 800-821-7284 or mtphl@mt.gov**

## Serology Specimens Collection and Transport

**TESTING POLICY:** If DATE OF ONSET is not present on laboratory request form, a convalescent specimen will be requested. True "ACUTE Phase" specimens will not be tested until the convalescent specimen is received. If more than four weeks pass without receipt of a convalescent specimen, the acute only specimen will be run and reported with a disclaimer that based on date of onset, specimen may have been collected prior to the production of significant antibodies. When acute and convalescent specimens are tested at the same time, only the convalescent specimen will be billed.

| | |
|---|---|
| Acute Specimen | The DATE OF ONSET of symptoms or disease is less than 7 days from the date serum is obtained, usually the first few days of the illness. IgG antibody titers are not elevated. Exceptions: Rubeola, Rubella, and Colorado Tick Fever and Rocky Mountain Spotted Fever may have a significant IgG titer in 7-10 days. |
| Convalescent Specimen | The DATE OF ONSET of symptoms or disease is 2 weeks or greater from the date serum is obtained. IgG antibody levels should be at a significant level. Exception: Legionella sp. antibody levels may not be significant for 4-6 weeks. |
| Screen Only<br>Single Specimen Only | The patient has a chronic condition, with the DATE OF ONSET of symptoms or disease being a very long period of time (months to years, OR patient is being screened for antibodies to a certain infectious agent (HIV, Hepatitis B, Rubella, VZV, etc.) OR IgM testing is available.<br><br>Single specimen test results may be difficult to interpret and an additional specimen may be requested if results warrant. |

Submit approximately 2 - 4 mL of clear non-hemolyzed serum for testing. Contact the laboratory for exact volumes needed if serum is difficult to obtain. Serum separator tubes can be used. Spin the SST tubes well to completely separate the serum and cells and submit the whole tube. Serum does not have to be poured off. DO NOT submit unspun SST tubes. If serum is not submitted in the original SST tube, place in a leakproof container.

Cerebral Spinal Fluid (CSF) may also be submitted for serological testing in certain instances. A serum sample should also be submitted with the CSF for comparison testing.

Specimens should be clearly labeled with two patient identifiers (name, DOB, medical record number, etc.) and collection date. Completely fill out the standard laboratory request form.

Place each specimen container in an individual biohazard zip lock bag containing absorbent material and seal bag tightly. Place the completed laboratory request form in the outer sleeve of the biohazard zip lock bag. Do not place the completed laboratory request form inside the zip lock bag.

If specimen is stored prior to shipment, store at 4°C. If storage is longer than 1 week, freeze the specimen. Specimens may be shipped at room temperature. Labeled pre-addressed mailing canisters are available from the laboratory. Transport by mail or courier.

## Viral Isolation/Culture Collection and Transport

Universal Collection Kits, containing swabs and transport media, are supplied by the laboratory. Store the kits at room temperature. The expiration date is printed on the collection kits. This same media is used for Chlamydia isolation.

| | |
|---|---|
| Autopsy/Biopsy Specimens | Place a small piece of the fresh or frozen tissue into Universal Viral Transport Media. Specimens in formalin are not acceptable. |
| Bronchial Alveolar Lavage (BAL) /Bronchial Washings | Mix an equal portion of the BAL or bronchial washing with Universal Viral Transport Media. |
| Buffy Coat | Collect 2 tubes (7 - 10 mL each) of heparinized blood. |
| Cerebral Spinal Fluid | Mix an equal portion of the CSF with Universal Viral Transport Media. |
| Endocervical Specimens | Place swab from cervix in Universal Viral Transport Media, break off at the score line, and tightly cap. |
| Eye (Conjunctival) Specimens | Place swab from conjunctiva in Universal Viral Transport Media, break off at the score line, and tightly cap. |
| Lesion Swabs/Scrapings | Place swab from fresh lesion into Universal Viral Transport Media, break off at the score line, and tightly cap. |
| Nasal Washes/Aspirates | See detailed instructions under Amplification Test Collection. Introduce 1-2 mL of sterile saline into the nasopharyngeal cavity, aspirate, and mix with an equal volume of Universal Viral Transport Media. |
| Nasopharyngeal Swab | See detailed instructions under Amplification Test Collection. Use the flexible shaft small dacron swab to collect the specimen. Place swab into Universal Viral Transport Media, trim shaft below the cap line, and tightly cap. |
| Rectal Swab | Place swab into Universal Viral Transport Media, break off at the score line, and tightly cap. |
| Saliva | Mix an equal portion of saliva with Universal Viral Transport Media. |
| Stool | Emulsify a small portion of the stool (smaller than a pea) in Universal Viral Transport Media. |
| Throat Swab | See detailed instructions under Amplification Test Collection. Place swab into Universal Viral Transport Media, break off at the score line, and tightly cap. |
| Urethral Swab | Place swab into Universal Viral Transport Media, break off at the score line, and tightly cap. |
| Urine | Mix an equal portion of urine with Universal Viral Transport Media. |
| Vesicular Fluid | Aspirate fluid from fresh unbroken vesicle and place into Universal Viral Transport Media. |

Specimens should be clearly labeled with two patient identifiers (name, DOB, medical record number, etc.) and collection date. Place each specimen container in an individual biohazard zip lock bag containing absorbent material and seal bag tightly.

Fill out standard laboratory request form completely and place in the outer sleeve of the biohazard zip lock bag. Do not place the request form inside the biohazard zip lock bag.

Specimens must be kept cold from the time they are collected until the time they are processed by the laboratory. Shipment must be done promptly, so that specimens are received by the laboratory within 48 hours of collection. Specimens must be shipped in a cold condition, usually by the use of cold packs and Styrofoam containers. Mailers will be returned for reuse. Transport by mail or courier.

## *Chlamydia spp.* Isolation/Culture Collection and Transport

Universal Collection kits, containing swabs and transport media, are supplied by the laboratory. Store at room temperature. Expiration date is printed on the collection kit. This same collection media can be used for viral isolation specimens.

| | |
|---|---|
| Autopsy/Biopsy Specimens | Place a small piece of the fresh or frozen tissue into Universal Viral Transport Media. Specimens in formalin are not acceptable. |
| Endocervical Specimens | Wipe the cervix with one of the swabs in the collection kit prior to sample collection to remove mucus and WBC. Insert the second swab into the cervical os to collect cells from the transitional zone. Rotate the swab vigorously in firm contact with the endocervical surface to facilitate the collection of columnar epithelial cells. Place swab in Universal Viral Transport Media, break off at the score line, and tightly cap. |
| Eye (Conjunctival) Specimens | Place swab from conjunctiva in Universal Viral Transport Media, break off at the score line, and tightly cap. |
| Nasal Washes/Aspirates | Introduce 1-2 mL of sterile saline into the nasopharyngeal cavity, aspirate, and mix with an equal volume of Universal Viral Transport Media. |
| Nasopharyngeal Swab | Use the flexible shaft small dacron swab to collect the specimen. Place swab into Universal Viral Transport Media, trim swab so that the shaft is below the cap line, and tightly cap. |
| Rectal Mucosa | Place swab into Universal Viral Transport Media, break off at the score line, and tightly cap. |
| Throat Swab | Place swab into Universal Viral Transport Media, break off at the score line, and tightly cap. |
| Urethral Swab | Patient should not have urinated within one hour of collection. Insert a small swab into the urethra and hold to absorb body fluids. Rotate the swab several times to obtain columnar epithelial cells, then withdraw. Place swab into Universal Viral Transport Media, break off at the score line, and tightly cap. |

Specimens should be clearly labeled with two patient identifiers (name, DOB, medical record number, etc.) and collection date. Place each specimen container in an individual biohazard zip lock bag containing absorbent material and seal bag tightly.

Fill out the standard laboratory request form completely and place in the outer sleeve of the biohazard zip lock bag. Do not place the request form inside the biohazard zip lock bag.

Specimens must be kept cold from the time they are collected until the time they are processed by the laboratory. Shipment must be done promptly, so that specimens are received by the laboratory within 48 hours of collection. Specimens must be shipped in a cold condition, usually by the use of cold packs and Styrofoam containers. The mailers will be returned for reuse. Transport by mail or courier.

# Clinical Laboratory Requisition Forms

Requisition forms are available by calling the laboratory at 800-821-7284:

The standard laboratory request form, preprinted with your account information; all clinical testing can be ordered with this form.

A newborn screening panel form; this form contains the dried blood spot collection kit.

Examples of each form are included on the following pages, as well as specific instructions on filling out the Newborn Screening form.

General Instructions:

Please fill the forms out completely to include (at a minimum):

Patient Last Name or anonymous identifier (required)
Patient First Name
Patient ID #
Date of Birth
Gender
Medicaid # (if applicable)
NPI (or UPIN) # of Physician/Clinician (preferred)
Physician/Clinician Name (if NPI is not provided)
Specimen Collection Date (required)
Date of Onset of Illness (for serology and molecular testing)
Source of Specimen (If source is serum, indicate if the serum is acute, convalescent, or a screen only)
Test(s) Ordered

There will need to be two forms of patient identification on both the requisition form and the submitted specimen for the submission to be acceptable.

NOTE: Forms are read using an optical scanning device. Please print information clearly in boxes indicated. Do not use preprinted labels or stamps.

## Standard Laboratory Testing Requisition Form

**MONTANA DEPARTMENT OF PUBLIC HEALTH & HUMAN SERVICES**

**Public Health Laboratory Request Form**

P.O. Box 4369, Helena, MT 59604-4369
(406) 444-3444 (800) 821-7284 CLIA ID # 27D0662531

**PATIENT INFORMATION**

LAST NAME

FIRST NAME

PATIENT ID#

PATIENT ADDRESS

PATIENT CITY OF RESIDENCE | STATE | ZIP CODE

DATE OF BIRTH / /

GENDER ☐ Male ☐ Female

**PROVIDER INFORMATION**

PHYSICIAN / CLINICIAN NAME

NATIONAL PROVIDER IDENTIFIER (NPI)

**MTPHL USE ONLY**

**TEST(S) REQUESTED INFORMATION**

**Serology:**

- ☐ Tick Borne Disease Panel+Lyme
- ☐ Tick Borne Disease Panel
- ☐ Hepatitis Acute Panel
- ☐ Blood Lead
- ☐ Brucella Antibody
- ☐ CTF Vig/G Serology
- ☐ Hantavirus IgG & IgM Serology
- ☐ Herpes Simplex Virus IgG Serology
- ☐ HIV Ab/Ag Combo with Reflex Confirmation
- ☐ Legionella IgG Serology
- ☐ Lyme Total Abs with Reflex Confirmation
- ☐ Mumps IgG Serology
- ☐ Q Fever IgG Serology
- ☐ RMSF IgG Serology
- ☐ Rubella IgG Antibody
- ☐ Rubella IgM Antibody
- ☐ Rubeola (Measles) IgG Antibody
- ☐ Rubeola (Measles) IgM Antibody
- ☐ Syphilis Screen with Reflex Confirmation
- ☐ Syphilis Serology, Quantitative
- ☐ T. pallidum Ab - Syphilis Confirmation (TP-PA)
- ☐ Tularemia Antibody
- ☐ Varicella Zoster Virus IgG Serology
- ☐ West Nile Virus IgM Serology
- ☐ West Nile Virus IgG Serology
- ☐ QuantiFERON Gold In-Tube Testing
- ☐ Hepatitis B Surface Antigen
- ☐ Hepatitis B Surface Antibody
- ☐ Hepatitis B Total Core Antibody
- ☐ Hepatitis B Core IgM Antibody
- ☐ Hepatitis A IgM Antibody
- ☐ Hepatitis C Ab with Reflex, as needed

**Surveillance Cultures:**

- ☐ ESBL Confirmation
- ☐ GC Confirmation/Susceptibility
- ☐ Influenza Confirmation
- ☐ MRSA Confirmation
- ☐ Salmonella/Shigella/E.coli/Campy
- ☐ VRE Confirmation
- ☐ Other Surveillance Confirmation

**Chlamydia Culture:**

- ☐ Chlamydia Culture

**Virus Culture:**

- ☐ Herpes Simplex Virus Isolation
- ☐ Varicella Zoster Virus Isolation
- ☐ Cytomegalovirus Isolation
- ☐ Respiratory Virus Isolation
- ☐ Enteric Virus Isolation
- ☐ CNS Virus Isolation
- ☐ Virus Isolation (Other)

**Nucleic Acid Amplification:**

- ☐ Chlamydia and Gonorrhea (APTIMA)
- ☐ Chlamydia Only (APTIMA)
- ☐ Gonorrhea Only (APTIMA)
- ☐ Trichomonas PCR
- ☐ Adenovirus PCR
- ☐ Bordetella pertussis multitarget PCR
- ☐ C difficile NAP1 PCR
- ☐ Enterovirus PCR
- ☐ Herpes Simplex Virus PCR
- ☐ Influenza A and B PCR
- ☐ Measles (Rubeola) PCR
- ☐ Mumps PCR
- ☐ M tuberculosis PCR (Direct)
- ☐ Norovirus PCR
- ☐ Parainfluenza PCR
- ☐ RSV and hMPV PCR
- ☐ Varicella Zoster PCR

**Sterilizer Monitoring:**

- ☐ Autoclave Monitoring - BT Test

**Microbiology:**

- ☐ Bacteriology Culture/ID, Aerobic
- ☐ Bacteriology Culture/ID, Anaerobic
- ☐ BT Agent Rule Out (list in Comments)
- ☐ Bordetella pertussis Culture/ID
- ☐ EHEC (STEC) Toxin Test
- ☐ Enteric Panel Culture, includes EHEC
- ☐ Campylobacter screen
- ☐ Vibrio screen
- ☐ Yersinia screen
- ☐ Fungus Culture/ID
- ☐ Legionella Direct Detection
- ☐ Legionella Culture/ID
- ☐ Malaria Screen
- ☐ Modified Acid Fast Stain
- ☐ Neisseria gonorrhoeae Culture/ID
- ☐ Streptococcus Group A Culture Screen
- ☐ TB Mycobacteria Smear/Culture/ID
- ☐ Cryptosporidium/Giardia EIA screen
- ☐ Cryptosporidium/Cyclospora Detection
- ☐ Ova and Parasite Exam

**Medicaid / Medicare Billing Information:**

MEDICAID ( ) or MEDICARE ( ) NUMBER

☐ Inpatient ☐ Outpatient

PRIMARY PAYOR

☐ Bill MEDICAID ☐ Bill MEDICARE

ICD DIAGNOSIS CODE

SPECIMEN COLLECTION DATE / /

DATE OF ONSET / /

For QFT-Gold IT: Time Collected:

Have specimens been incubated for 16 - 24 hours? Yes No

**Test(s) Requested (If Not Listed) / Pertinent Information / Symptoms / Travel History / Comments**

SPECIMEN SOURCE

- ☐ NP Swab
- ☐ Throat Swab
- ☐ CSF
- ☐ Stool
- ☐ Cervical Swab
- ☐ Urethral Swab
- ☐ Bronchial Washings
- ☐ Pleural Fluid
- ☐ Other _____ (Specify)
- ☐ Sputum
- ☐ Urine
- ☐ Lesion Swab
- ☐ Acute Serum
- ☐ Convalescent Serum
- ☐ Serum Screen Only
- ☐ EDTA Blood
- ☐ Stimulated Plasma (QFT assay)

Draft

DPHHS PHL 3614

Sample Form

## Newborn Screening Requisition Form

This form has attached special filter paper for collection of the blood spots.

MONTANA DPHHS NEWBORN SCREENING
Public Health Laboratory
P.O. Box 4369, Helena, MT 59604-4369
SN 208400

Do Not Write In This Space

Baby's Last Name
Baby's First Name
Baby's ID Number
Gender ☐ M ☐ F
Mother's Last Name
Mother's First Name
Baby's Physician
Medicaid ID Number
Physician UPIN #
MTPHL 03/09
Physician's Telephone
Submitter's ID Number
Submitter's Address

RACE OF BABY ☐ White ☐ Native Amer. ☐ Other ☐ Black ☐ Asian ☐ Unk
ETHNICITY OF BABY ☐ Non-Hispanic ☐ Unk ☐ Hispanic
SPECIMEN ☐ 1st ☐ Repeat
BIRTH DATE
BIRTH WEIGHT (grams)
DATE SPECIMEN COLLECTED
COLLECTION WEIGHT ☐ Greater than 1500 grams ☐ If not, Enter Weight (gm)
AGE AT TIME OF COLLECTION ☐ <24 Hours ☐ >24 Hours
IS THE BABY ON TPN? ☐ Y ☐ N
HAS THE BABY RECEIVED A TRANSFUSION? ☐ Y ☐ N
DATE OF TRANSFUSION
SCREEN FOR THE FOLLOWING CONDITIONS:
☐ Newborn Screening Panel (Required): Includes PKU, Congenital Hypothyroidism, Galactosemia, Hemoglobinopathies, Cystic Fibrosis (IRT), Acylcarnitine Profile (MS/MS), Biotinidase Deficiency, Congenital Adrenal Hyperplasia, Aminoacidopathies (MS/MS).
☐ Other (specify)

MONTANA DPHHS NEWBORN SCREENING
Public Health Laboratory, P.O. Box 4369, Helena, MT 59604-4369
(800) 821-7284 CLIA ID # 27D0652531
LOT W081 6835209
REF 10535643 Rev 2
2012-03

Whatman 903® LOT W081 6835209 SN 208400
SN 208400
READ INSTRUCTIONS ON BACK OF FORM.
DO NOT HANDLE FILTER PAPER.
DO NOT APPLY BLOOD TO BOTH SIDES

Sample Form

All information contained on the form must be completed.

Complete the patient information (name, sex, ID#, race, and ethnicity) as well as the mother's name and baby's physician.

Mark the specimen as to whether this is the first screen performed on the baby, or repeat screen. If the baby was screened at the hospital, and then is followed up with a repeat test at the physician's office, mark the repeat box.

Accurately complete the birth date and specimen collection date. If the birth date and specimen date are only 1 day apart, and the >24 hour box is not marked, the baby will be assumed to be < 24 hours of age at the time of collection. Samples obtained from a child less than 24 hours old must be repeated.

Complete the birth weight in grams and mark if the collection weight is greater than 1500 grams. If the collection weight is not >1500 grams, enter the weight in grams in the blank provided. Samples obtained on a child < 1500 grams of weight must be repeated.

Answer the questions on transfusion history. In cases when the baby received a transfusion, please include the date of transfusion. Samples must be repeated 90-120 days post transfusion.

If the baby is on TPN (Total Parenteral Nutrition) at the time of collection, please indicate that on the form.

As of January 2008, the entire Newborn Screening panel is mandatory.

This same form can be used for monitoring Phenylalanine levels on patients with known PKU disease.

# Montana Public Health Laboratory
## Supply Order Form
### *Toll Free 800-821-7284 or FAX 406-444-1802*

Facility / ATTN: _____

Street Address _____

City/State/Zip _____

Account Number: _____Order Date: _____

Phone No: _____Order Taken By: _____

**Quantity** **Supplies** Revised 03/2010

Kits Boxes

_____ □ □ Chlamydia/GC Aptima **SWAB** Collection Kits (50/box)
(for Cervical, Urethral, Rectal or Throat Specimens)

_____ □ □ Chlamydia/GC Aptima **URINE** Collection Kits (50/box)

_____ □ □ Chlamydia/GC Aptima **VAGINAL** Collection Kits (50/box)

_____ Tuberculosis Transports

_____ Ova & Parasite Transports

_____ QuantiFERON Gold In Tube Collection Tubes (3 tubes/set)

_____ Streptococcus Screening Kits

_____ Capillary Blood Lead Collection Kits

_____ Venous Blood Lead Collection Kits
□Vacutainer □Syringe/Needle

_____ Cary-Blair Transport Medium (for stools and bacteriology cultures)

_____ Universal Transport Medium (for viral and chlamydia isolation)

_____ Pertussis Transport Medium (for culture, not PCR)

_____ Polyester Flexible Wire Swabs for Nasopharyngeal Collection

_____ White Specimen Mailing Tubes

_____ Specimen Bags _____ Mailing Labels

_____ Whirlpack Bags _____ Gloves _____ Ice Packs

**Forms**

_____ Standard Laboratory Requisition Forms (blue)

_____ Neonatal Screening Forms _____ Envelopes

_____ Premarital Certificates

_____ Meat Inspection Testing Request Forms

*Please Note: These supplies are the property of the State of Montana and are to be used only for business with the Montana Department of Public Health and Human Services.*

# Packaging and Shipping Guidelines

It is the responsibility of the facility to ensure proper packaging and shipping of all potentially infectious and biological substances. Listed below are some general guidelines and links to websites that will provide more detailed information.

Category A
"Infectious Substance Affecting Humans UN2814"

Category A: "An infectious substance in a form capable of causing permanent disability or life-threatening or fatal disease in otherwise healthy humans or animals when exposure occurs by release outside of its protective packaging, resulting in physical contact with humans or animals" (i.e., high infective dose possible if exposure occurs)

Category B
Biological Substance UN 3373"

Category B: "An infectious substance NOT in a form generally capable of causing permanent disability or life-threatening or fatal disease in otherwise healthy humans or animals when exposure to it occurs. This includes Category B infectious substances transported for diagnostic or investigational purposes."

Non-Infectious Substances

Exempt Human Specimens

Exempt Human Specimen label indicates there is no infectious substance in the package.
Examples of Exempt human specimens include fecal occult blood and dried blood spots.
Professional judgment must be used to determine transport by Category B or Exempt status.

For more information please visit the following sites:
http://www.who.int/csr/resources/publications/biosafety/WHO_CDS_EPR_2007_2cc.pdf

http://www.iata.org/whatwedo/cargo/dangerous_goods/

DOT: Transporting Infectious Substances Safely

# SPECIMEN PACKAGING INSTRUCTIONS

**Example of acceptable packaging of specimens for Montana Public Health Laboratory**

**A. Only <u>one</u> type of requisition and <u>one</u> associated specimen per bag.**

*ALWAYS place requisition in outer pouch of transport bag.*
*NEVER place requisition inside bag with specimen.*

**Examples of unacceptable packaging of specimens for Montana Public Health Laboratory**

B.

C.

D.

E.

**B. More than one patient and more than one type of requisition per bag.**

**C. Single patient with multiple types of requisitions and specimens per bag.**

**D. Specimen rolled inside requisition and fastened with an elastic band.**

**E. Patient demographic label, tape or staples used to attach specimen to requisition and not in biohazard bag.**