MONTANA
Department of Public Health & Human Services

LABORATORY SERVICES BUREAU

PUBLIC HEALTH LABORATORY

LABORATORY SERVICES MANUAL

Effective July 1, 2010 to June 30, 2011

Clinical Testing List of Services

The following list of available tests have been separated into sections, based on the area where testing is performed. In addition, an alphabetical list of all tests is found in the index for ease in searching.

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

Summary of Changes:

Please note there have been some changes to this manual from the previous version:

- The tests are now in alphabetical order, including hyperlinks where needed.
- No printed copies will be available in an effort to decrease costs.
- Because an electronic copy maintained on the Laboratory's website is easy to update, the most up-to-date information on testing services is readily available.
- Prices have been updated to reflect the new fees effective on specimens received on or after July 1, 2010.
- CPT codes have been updated
    - FTA-ABS is now 86780
    - Trichrome Stain is now 88313
    - *Neisseria gonorrhoeae* identification by DNA Probe is now 87510
- The Enteric Panel for bacterial pathogens now includes a EHEC screen to detect all shiga-toxin producing serotypes of *E. coli*, including O157.
- Hepatitis C Viral Load (HCV RNA) testing and HCV Genotyping is no longer available through the laboratory.

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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 Microtest Transport Media**.** See specific instructions on page 51.

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

CPT Code: 87798
Price: $95.00

Transport Temperature: 2-8°C

Amebiasis Detection (see Ova and Parasite Exam)

Anthrax (see *Bacillus anthracis in the Microbiology, Reference Section*)

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*, KPC, and resistant *S. 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: $25.00

Transport Temperature: Ambient

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: $12.50

86651 (California Group)
Price: $12.50

Total Price: $25.00

Transport Temperature: Ambient

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: $20.50

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: $29.00

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: $25.00

Transport Temperature: Ambient

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 Code: 87081 (Culture screen)
Price: $32.75

87798 (PCR)
Price: Fee Waived

Transport Temperature: Ambient

Bacillus anthracis Rapid Test Methods (see *Bacillus anthracis* in the Microbiology, Reference Section)

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 Code: 87070 (culture, presumptive ID)
Price: $21.00

87077 (Each add'l ID)
Price: $18.25

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 Code: 87075 (culture, presumptive ID)
Price: $21.00

87076 (Each add'l ID)
Price: 21.00

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: $32.75

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: $25.00

Transport Temperature: Ambient

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: $29.50 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)	86703 (HIV)	86803 (HCV)
Price: $21.53	Price: $21.00	Price: $36.25
		Total Price: $78.78

Transport Temperature: Ambient

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 Code: 86706 (HBsAb)	86703 (HIV)	86803 (HCV)
Price: $24.25	Price: $21.00	Price: $36.25
		Total Price: $81.50

Transport Temperature: Ambient

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 pages 58-59 for 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: $20.50

Transport Temperature: Ambient

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 Code: 87081 (Culture screen)	87077 (Each add'l ID)
Price: $32.75	Price: $18.25

Transport Temperature: Ambient

Bordetella pertussis/Bordetella parapertussis Direct Detection by Real Time PCR

Specimen Requirements: Nasal washings or nasopharyngeal (NP) swab in a sterile container. Do not submit a throat or nares specimen. See specific instructions on page 53.

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: 87798

Price: $95.00

Transport Temperature: 2-8°C for nasal washings, ambient for NP swabs

***Borrelia burgdorferi* Serology by EIA with reflex Western Blot confirmation**

Specimen Requirements: 2 mL serum and a completed Lyme Disease report form (see page 69 or access the form at: http://www.cdc.gov/ncidod/dvbid/lyme/resources/LymeDiseaseCaseReportForm.pdf). Date of onset information must be included.

Referred to the Centers for Disease Control, Fort Collins, Colorado
Turn Around Time: 2 to 3 weeks

CPT Code: 86618 (Screen)
Price: $25.00

Transport Temperature: Ambient

***Borrelia hermsii* Serology (Tick Borne Relapsing Fever) by EIA**

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: $25.00

Transport Temperature: Ambient

***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: $25.00

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 Code: 87081 (Culture screen)
Price: $32.75

87798 (PCR)
Price: Fee Waived

Transport Temperature: Ambient

***Brucella spp.* Rapid Test Methods** **(see *Brucella spp.* in the Microbiology, Reference Section)**

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: $18.00
86668 (Tularemia) Price: $18.00
Total Price: $36.00

Transport Temperature: Ambient

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 Code: 87081 (Culture screen)
Price: $32.75

87798 (PCR)
Price: Fee Waived

Transport Temperature: Ambient

Burkholderia mallei, B. pseudomallei Rapid Test Methods (see *Burkholderia mallei, B. pseudomallei* in the Microbiology, Reference Section)

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 Code: 87046 (Culture ID)
Price: $13.75

87077 (Each add'l ID)
Price: $18.25

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

Candida albicans Culture Isolation/Identification (see Fungal Culture)

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

Central Nervous System (CNS) Virus Culture Isolation/Identification

Specimen Requirements: CSF or Central Nervous System specimen in Microtest Transport Media, received within 48 hours of collection. See collection instructions on page 62.

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 Code: 87252 (culture) 87253 (Virus ID) Each add'l ID
Price: $38.50 Price: $30.00

Transport Temperature: 2-8°C

Chagas Disease (see *Trypanosomiasis* Detection)

Chancroid (see *Haemophilus ducreyi)*

Chlamydia spp. Culture Isolation/Identification

Specimen Requirements: Specimen in Microtest Transport Media received within 48 hours of collection. See collection instructions on page 63.

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

CPT Code: 87110
Price: $38.50

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 on page 51.

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 on page 51.

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* 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: 2-8°C

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

CMV **(see Cytomegalovirus)**

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 Code: 86790 (CTFV)	86757 (RMSF)	Total Price: $42.00
Price: $21.00	Price: $21.00	

Transport Temperature: Ambient

***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: $32.75

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: $29.00

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: $25.00

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 Microtest Transport Media, Heparinized Blood, Biopsies, received within 48 hours of collection. See collection instructions on page 60.

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 Code: 87252 (culture)	87254 (spun vial)	Total Price: $ 67.50
Price: $38.50	Price: $ 29.00	

Transport Temperature: 2-8°C

Cytomegalovirus (CMV) 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: 86644
Price: $21.00

Transport Temperature: Ambient

Cytomegalovirus (CMV) IgM Serology by Capture EIA
Specimen Requirements: 1 mL serum
Screen or paired acute and convalescent specimens

Turn Around Time: Testing performed each working day. IgM results are telephoned to the submitter.

CPT Code: 86645
Price: $37.25

Transport Temperature: Ambient

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: $25.00

Transport Temperature: Ambient

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: $25.00

Transport Temperature: Ambient

Dermatophytes Culture Isolation/ Identification (see Fungal Culture)

Diphtheria (see *Corynebacterium diphtheriae*)

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: $25.00

Transport Temperature: Ambient

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: $25.00

Transport Temperature: Ambient

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: $25.00

Transport Temperature: Ambient

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: $25.00

Transport Temperature: Ambient

Enteric Panel Culture Isolation/ Identification (includes *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) Price: $13.75	87046 (*Campy* culture) Price: $13.75	87077 (Each add'l ID) Price: $18.25
87045 (*Salm*. and *Shig*. culture) Price: $13.75	CPT Code (EHEC): 87449 Price: $23.75	Total Price: $65.00

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 Microtest Transport Media, received within 48 hours of collection. See collection instructions on page 62.

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 Code: 87252 (culture)
Price: $38.50

87253 (Virus ID) Each add'l ID
Price: $30.00

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, raw stool in a sterile transport container, respiratory specimens (solid or swabs). See specific instructions on page 53.

Turn Around Time: 1 to 3 working days. Positive results are telephoned to the submitter.
CPT Code: 87498
Price: $89.25

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 Code: 87046 (Culture ID)
Price: $13.75

87077 (Each add'l ID)
Price: $18.25

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: $23.75

Transport Temperature: 2-8°C

Exanthem Serology Panel, IgG only (Rubeola, Rubella, HSV, VZV, CTF V and RMSF (during tick season) by EIA, IFA

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)
Price: $21.00

86762 (Rubella)
Price: $21.00

86695 (HSV1)
Price: $21.00

86696 (HSV2)
Price: $21.00

86787 (VZV)
Price: $21.00

86790 (CTFV)
Price: $21.00

86757 (RMSF)
Price: $21.00

Transport Temperature: Ambient
Total Price: $147.00

Exanthem Panel, IgG + IgM (Rubeola IgG + IgM, Rubella IgG + IgM, HSV, VZV, CTFV and RMSF (during tick season) by EIA, IFA

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)
Price: $21.00

86765 (Rubeola IgM)
Price: $21.00

86762 (Rubella IgG)
Price: $21.00

86762 (Rubella IgM)
Price: $21.00

86695 (HSV1)
Price: $21.00

86696 (HSV2)
Price: $21.00

86787 (VZV)
Price: $21.00

86790 (CTFV)
Price: $21.00

86757 (RMSF)
Price: $21.00

Total Price: $189.00

Transport Temperature: Ambient

F

Fluorescent Treponemal Antibody (FTA-ABS) by Indirect Immunofluorescence

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: $33.75

Transport Temperature: Ambient

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 Code: 87081 (Culture screen)
Price: $32.75

87798 (PCR)
Price: Fee Waived

Transport Temperature: Ambient

***Francisella tularensis* Rapid Test Methods** **(see *Francisella tularensis* in the Microbiology, Reference Section)**

***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 Code: 86668 (Tularemia)
Price: $19.00

86622 (*Brucella*)
Price: $19.00

Total Price: $36.00

Transport Temperature: Ambient

FTA-ABS **(see Fluorescent Treponemal Antibody)**

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 on page 56.

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

CPT Codes:
87101 (culture, skin)
87102 (culture, other)

87103 (culture, blood)
Price: $36.75 Each

87106 (ID, yeast)
Price: $15.75 Each

87107 (ID, mold)
Price: $15.75 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 Code: 86698 (Histoplasma)
Price: $25.00

86612 (Blastomyces)

86635 (Coccidioides)

Transport Temperature: Ambient

G

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

Giardia Detection (see Ova and Parasite Exam)

Gonococcal Infections (see *Neisseria gonorrhoeae*)

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: $32.75

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 Code: 87081 (culture)
Price: $32.75

87185 (beta lactamase)
Price: $6.30

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 Code: 86790 (IgG)
Price: $46.75

86790 (IgM)
Price: $ 46.75

Total Price: $93.50

Transport Temperature: Ambient

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 Code: 80074
Price: $120.78

86803 (Hep C)	86705 (HBcoreM)	86709 (HAVM)	87340 (HBsAg)
Price: $36.25	Price: $31.50	Price: $31.50	Price: $21.53

Transport Temperature: Ambient

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: $31.50

Transport Temperature: Ambient

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: $31.50

Transport Temperature: Ambient

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: $36.25

Transport Temperature: Ambient

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: $24.25

Transport Temperature: Ambient

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: $21.53

CPT Code: 86382 (Neutralization)
Price: $25.00

Transport Temperature: Ambient

Hepatitis C (HCV) Antibody Confirmation, by RIBA

This reflex test is used to confirm the presence of HCV antibody when Signal/CutOff (S/CO) ratios are <3.8.

Specimen Requirements: 1 mL serum

Referred to Commercial Reference Lab
Turn Around Time: 2 weeks

CPT Code: 86804
Price: $84.00

Transport Temperature: Ambient

Hepatitis C (HCV) Antibody Screen by EIA with reflex confirmation

Specimen Requirements: 2 mL serum

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

NOTE: Reflex confirmatory testing (RIBA) is performed on all repeat reactive EIA screens with Signal/CutOff (S/CO) ratio <3.8. Confirmatory testing is not necessary on specimens with S/CO ratios of 3.8 or greater as the confirmation rate on these specimens is >95%.

CPT Code (screen): 86803
Price: $36.25

For RIBA confirmation see specific listing below

Transport Temperature: Ambient

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

Specimen Requirements: Specimen in Microtest Transport Media, received within 48 hours of collection. See collection instructions on page 62.

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

CPT Code: 87252 (culture)
Price: $38.50

87253 (Virus ID)
Price: $30.00

Transport Temperature: 2-8°C

Herpes Simplex Virus (HSV) Type 1 and 2 Direct Detection by DFA

Specimen Requirements: Slide prepared from vigorously scraping the base of a fresh lesion with a Dacron swab. Smear specimen over a small (dime) sized circle on the microscope slide. Avoid excess blood contamination of the specimen. Fix slide with acetone prior to submission.

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

NOTE: Traditional cell culture should also be performed. See Herpes Simplex Virus (HSV) Culture Isolation/ID

CPT Code: 87274 (HSV1 DFA) 87273 (HSV2 DFA)
Price: $12.00 Price: $12.00

Transport Temperature: Ambient

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

Specimen Requirements: CSF, Cervical Swab or Lesion swab in Microtest Transport Media. See specific instructions on page 53.

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

CPT Code: 87529
Price: $95.00

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 Code: 86695 (HSV 1) 86696 (HSV 2)
Price: $21.00 Price: $21.00 Total Price: $42.00

Transport Temperature: Ambient

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 Antigen by EIA

Specimen Requirements: 2 mL serum

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

CPT Code: 87390
Price: $25.00

Transport Temperature: Ambient

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-1/2 Plus O Antibody EIA is repeat-reactive and the HIV-1 Western Blot is negative or indeterminate.

CPT Code: 86703-92
Price: $47.25

Transport Temperature: Ambient

HIV – 1 / 2 Plus O Antibody by EIA with reflex confirmation

Specimen Requirements: 1 mL serum

Turn Around Time: EIA screens routinely tested several days each week; Western Blots performed as needed. Positive results are telephoned to the submitter.

NOTE: Reflex confirmatory Western Blot testing is performed on all repeat reactive EIA screens. Multispot testing will be performed to differentiate HIV-1 and HIV-2 when the HIV-1/2 Plus O Antibody EIA is repeat reactive and the HIV-1 Western Blot is negative or indeterminate.

CPT Code: 86703 (HIV Screen)	86689 (Western Blot)	86703-92 (Multispot)
Price: $21.00	Price: $121.25	Price: $47.25

Transport Temperature: Ambient

*****|*****

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: 87253 (Virus ID)
Price: $30.00

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.

*Testing is performed at no cost for epidemiological purposes.

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

Price: Fee Waived*

Transport Temperature: 2-8°C

Influenza A and B Culture (See Respiratory Virus Culture)

Influenza A and B Virus Direct Detection by Real Time PCR

Specimen Requirements: Respiratory specimen in Microtest Transport Media. See specific instructions on page 53.

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: 87798 x 2
Price: $95.00 each

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: $21.00

Transport Temperature: Ambient

***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: $24.25

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 Code: 87081 (Culture screen)	87278 (DFA)	87077 (Each add'l ID)
Price: $32.75	Price: $24.25	Price: $18.25

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: $25.00

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: $25.00

Transport Temperature: Ambient

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: $25.00

Transport Temperature: Ambient

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

Measles Culture (see Rubeola Culture)

Malaria Detection/ Identification (see _Plasmodium_ Detection)

Malaria Serology (see _Plasmodium_ Serology)

Measles Serology (see Rubeola Serology)

Meningococcal Infection (see _Neisseria 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 Codes: 87206 (smear)
Price: $14.50

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 Microtest Transport Media, received within 48 hours of collection. See collection instructions on page 62.

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 Code: 87252 (culture)
Price: $38.50

87253 (Virus ID) Each add'l ID
Price: $30.00

Transport Temperature: 2-8°C

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: $21.00

Transport Temperature: Ambient

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: Performed each working day, as needed. IgM results are telephoned to the submitter.

CPT Code: 86735
Price: $21.00

Transport Temperature: Ambient

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 on page 55.

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)

Price: $14.50

87015 (concentration)
Price: $15.25

87116 (culture)
Transport Temperature: Ambient

Price: $32.75

87176 (tissue digestion)
Price: $9.00

***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 Code: 87555 (*M. tuberculosis)* 87560 (*M. avium* probe) 87550 (*M. gordonae or M. kansasii*)

Price: $29.50 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
Price: $14.75 each Total Price: $73.75

Transport Temperature: Ambient

***Mycobacterium tuberculosis* complex Direct Detection by Nucleic Acid Amplification**

Specimen Requirements: Processed concentrated specimen or primary respiratory specimen. See specific instructions on page 55.

Turn Around Time: 1 to 3 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 the direct nucleic acid amplification test for *M.tuberculosis* complex (MTD Test).

Testing will also be performed on culture negative specimens if the index of suspicion of Tuberculosis is high.

CPT Code: 87556
Price: $183.75

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 Code: 87081 (Culture screen)	87590 (ID)	87185 (beta lactamase)
Price: $32.75	Price: $29.50	Price: $6.30

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 on page 51.

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 Code: 87081 (Culture screen)	87185 (beta lactamase)
Price: $32.75	Price: $6.30

Transport Temperature: Ambient

Newborn Screening Panel

Specimen Requirements: Dried Blood Spots. See collection instructions on page 57.

Total Price: $96.25

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

* Tests referred to the Wisconsin State Newborn Screening Laboratory

Note: Reflex confirmatory TSH testing is performed on all T4 results that are less than 10 ug/dL
Reflex confirmatory HPLC testing is performed on all abnormal hemoglobinopathy screens.

Confirmatory Tests	CPT Code	Price[#]
Hemoglobinopathies by HPLC*	87143	$34.75
Thyroid Stimulating Hormone (TSH)	84443	$10.50

[#] Not included in total cost of routine testing panel.

***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: $25.00

Transport Temperature: Ambient

Norovirus Direct Detection by Nucleic Acid Amplification

Specimen Requirements: 2 mL stool in a sterile container. See specific instructions on page 51.

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

CPT Code: 87798
Price: $95.00

Transport Temperature: 2-8°C

O

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

Specimen Requirements: Lesion swab in Microtest 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 Microtest Transport Media plus an additional lesion swab transported dry in a sterile container. See specific instructions on page 53.

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 Code: 87177 (concentration/ID)
Price: $21.75

88313 (Trichrome stain)
Price: $21.75

Total Price: $43.50

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: $25.00

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: $25.00

Transport Temperature: Ambient

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: $25.00

Transport Temperature: Ambient

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 on page 57.

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: $21.25

Transport Temperature: Ambient

Plague (see *Yersinia pestis* in the Microbiology, Reference Section)

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: $29.00

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: $25.00

Transport Temperature: Ambient

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: $21.00

Transport Temperature: Ambient

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. Collection instructions are on page 60.

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
Price: $91.00

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.vet.ksu.edu/depts/dmp/service/rabies/index.htm

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 Microtest Transport Media. See collection instructions on page 60.

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

CPT Code: 87280
Price: $24.25

Transport Temperature: 2-8°C

Respiratory Virus Culture Isolation/Identification

Specimen Requirements: Throat or NP Swab, Nasal or Bronchial Washings, BAL in Microtest Transport Media, received within 48 hours of collection. See collection instructions on page 62.

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 Code: 87252 (culture)
Price: $38.50

87253 (Virus ID) Each add'l ID
Price: $30.00

Transport Temperature: 2-8°C

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)
Price: $21.00 Price: $21.00 Total Price: $42.00

Transport Temperature: Ambient

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

For premarital testing for Rubella immunity, download instructions and electronic forms at
www.dphhs.mt.gov/PHSD/Lab/Environmental/pdf/premaritalcertfillable.pdf

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

CPT Code: 86762
Price: $21.00

Transport Temperature: Ambient

Rubella 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: Performed each working day, as needed. Results are telephoned to the submitter.

CPT Code: 86762
Price: $21.00

Transport Temperature: Ambient

Rubeola (Measles) Culture Isolation/Identification

Specimen Requirements: Throat or NP Swab in Microtest Transport Media, received within 48 hours of collection. See collection instructions on page 62.

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

CPT Code: 87252 87253 (Virus ID) Each add'l ID
Price: $38.50 Price: $30.00

Transport Temperature: 2-8°C

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: $21.00

Transport Temperature: Ambient

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: Performed each working day, as needed. Results are telephoned to the submitter.

CPT Code: 86765
Price: $21.00

Transport Temperature: Ambient

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 Code: 87045 (Culture ID)
Price: $13.75

87077 (Each add'l ID)
Price: $18.25

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 Code: 87045 (Culture ID)
Price: $13.75

87077 (Each add'l ID)
Price: $18.25

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 Code: 87177(Conc. ID)
Price: $21.75

88313 (Trichrome)
Price: $21.75

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: $25.00

Transport Temperature: Ambient

***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: $25.00

Transport Temperature: Ambient

***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: $25.00

Transport Temperature: Ambient

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: $32.75

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: $25.00

Transport Temperature: Ambient

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: $13.75

Transport Temperature: Ambient

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 FTA-ABS 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 $14.00

Transport Temperature: Ambient

T

Tick-borne Disease IgG Serology Panel (RMSF, CTFV, Q Fever, Tularemia and Brucella) by IFA, Bacterial Agglutination

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) Price: $21.00	86638 (Q-Fever) Price: $21.00	86622 (Brucella) Price: $19.00
86790 (CTFV) Price: $21.00	86668 (Tularemia) Price: $19.00	Total Price: $101.00

Transport Temperature: Ambient

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

Torch Screen, IgG Only by EIA (Toxoplasma, CMV, Rubella, HSV Type 1 and 2)

Specimen Requirements: 2 mL serum
Paired acute and convalescent serum recommended. For newborns, include mother's serum for baseline paired specimen.

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.

CPT Codes: 86777 (Toxo IgG) Price: $21.00	86762 (Rubella IgG) Price: $21.00	86696 (Herpes Simplex 2) Price: $21.00
86644 (CMV IgG) Price: $21.00	86695 (Herpes Simplex 1) Price: $21.00	Total Price: $105.00

Transport Temperature: Ambient

Torch Screen, IgG + IgM by EIA (Toxoplasmosis G+M, CMV G+M, Rubella G+M, HSV IgG)

Specimen Requirements: 2 mL serum; include date of onset.

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

CPT Codes: 86777 (Toxo G) Price: $21.00	86695 (HSV 1) Price: $21.00	86645 (CMV M) Price: $37.25
86644 (CMV G) Price: $21.00	86696 (HSV 2) Price: $21.00	86762 (Rubella M) Price: $21.00
86762 (Rubella G) Price: $21.00	86778 (Toxo M) Price: $37.25	Total Price: $200.50

Transport Temperature: Ambient

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: $25.00

Transport Temperature: Ambient

Toxoplasmosis 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: 86777
Price: $21.00

Transport Temperature: Ambient

Toxoplasmosis IgM Serology by Indirect Immunofluorescence
Specimen Requirements: 1 mL serum

Turn Around Time: Testing performed each working day, as needed. Results are telephoned to the submitter.

CPT Code: 86778
Price: $37.25

Transport Temperature: Ambient

***Treponema pallidum* (See Syphilis Serology or Fluorescent Treponemal Antibody)**

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: $25.00

Transport Temperature: Ambient

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: $25.00

Transport Temperature: Ambient

***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: $29.00

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: $25.00

Transport Temperature: Ambient

U

V

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

Varicella Zoster Virus (VZV) Direct Detection by Direct Fluorescence Assay

Specimen Requirements: Slide prepared from vigorously scraping the base of a fresh lesion with a Dacron swab. Smear specimen over a small (dime) sized circle on the microscope slide. Avoid excess blood contamination of the specimen. Fix slide with acetone prior to submission.

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

NOTE: Traditional cell culture should also be performed. See Varicella Zoster (Herpes Zoster) Virus Culture Isolation/ ID.

CPT Code: 87290
Price: $24.25

Transport Temperature: Ambient

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

Specimen Requirements: Vesicular lesion swab in Microtest Transport Media. See specific instructions on page 53.

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

CPT Code: 87798
Price: $95.00

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: $21.00

Transport Temperature: Ambient

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

Specimen Requirements: Specimen, usually vesicular fluid, in Microtest Transport Media, received within 48 hours of collection. See collection instructions on page 62.

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

CPT Code: 87252 (culture)
Price: $38.50

87253 (Virus ID) Each add'l ID
Price: $30.00

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 Code: 87046 (Culture ID)
Price: $13.75

87077 (Each add'l ID)
Price: $18.25

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

Virus Culture Isolation/Identification

Specimen Requirements: Specimen in Microtest Transport Media, received within 48 hours of collection. See collection instructions on page 62.

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 Code: 87252 (culture)
Price: $38.50

87253 (Virus ID) Each add'l ID
Price: $30.00

Transport Temperature: 2-8°C

W

Western Blot (see HIV-1/2 Antibody)

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: $19.00

Transport Temperature: Ambient

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: $19.00

Transport Temperature: Ambient

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 Code: 87046 (Culture ID)
Price: $13.75

87077 (Each add'l ID)
Price: $18.25

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 Code: 87081 (Culture screen)
Price: $32.75

87798 (PCR)
Price: Fee Waived

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

Yersinia pestis Rapid Test Methods (see *Yersinia pestis* in the Microbiology, Reference Section)

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: $25.00

Transport Temperature: Ambient

*****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. Make certain the transport tube is labeled with a minimum of patient name; collection date is also helpful.

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. Make certain the transport tube is labeled with a minimum of patient name; collection date is also helpful.

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. Make certain the transport tube is labeled with a minimum of patient name; collection date is also helpful.

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. Make certain the transport tube is labeled with a minimum of patient name; collection date is also helpful.
8. 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. Make certain the transport tube is labeled with a minimum of patient name; collection date is also helpful.

Swab and Urine Specimen Transport

After collection, ensure that specimens are properly labeled.
Fill out the standard laboratory request form (see page 65) or the form for Chlamydia/gonorrhea screening (See page 66).
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.

Microtest 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 Microtest Transport Media. Store in cold conditions and ship on cold packs. For Bacterial Agents, collect in sterile container. Store in cold conditions and ship on cold packs.
Cerebral Spinal Fluid	Place 1 – 2 mL in sterile container without transport. Store in cold conditions and ship on cold packs.
Cervical Swab	Place swab into Microtest 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 Microtest 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 Microtest 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. For Viral Agents, place swab into Microtest 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.
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. For Viral Agents, place swab into Microtest 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 Autopsy or Biopsy	For Viral Agents, place each specimen in separate sterile containers containing small amounts of Microtest Transport Media. Store and ship on cold packs or dry ice. *Do Not submit formalized tissue.* 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 Microtest 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.

Make certain tube is labeled with patient identifier, 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 (see page 65) 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. Make certain that the container is labeled with patient identifier 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 (see page 65). 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. Make certain that container is labeled with patient identifier and collection date.

Fill out the standard laboratory request form (see page 65). Place form in outside sleeve of biohazard zip lock bag and put into mailing container. Transport at ambient temperature by mail or courier.

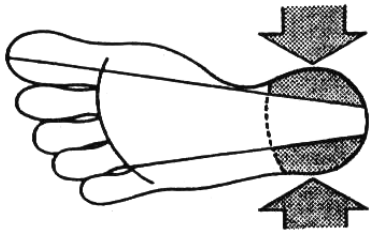
Newborn Screening Collection and Transport

Newborn screening specimen cards for collection of dried blood spot samples (page 68) are available from the laboratory. See Supply Request Form on page 71. 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. Use of capillary tubes is not recommended because they tend to roughen the filter paper and cause over absorption.

5. 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.

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

7. 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:

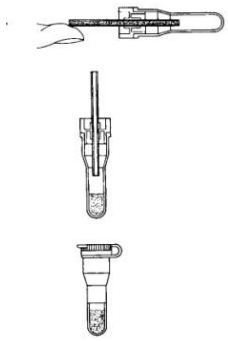
1. Use the gauze to wipe off the first drop of blood, which contains excess tissue fluid. A rounded drop of blood will form over the puncture site. When the tip of the collection device touches this drop, blood will flow by capillary action into the tube. Care should be taken that the tip of the collection 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

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.



2. Apply pressure to the puncture site with a gauze pad to stop bleeding, while mixing the specimen by inverting a minimum of five times.
3. Identify each skin puncture specimen with the patient's name and collection date.

Submitting Specimens to the Laboratory for Testing:

1. Complete a standard laboratory request form (see page 65) to include the patient's name, date of birth, gender, collection date, submitter information, and, if applicable, Medicaid billing information.
2. 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.
3. 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. Complete a standard laboratory request form (see page 65) to include the patient's name, date of birth, gender, collection date, submitter information, and, if applicable, Medicaid billing information.
2. 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. Store the specimen(s) in the refrigerator until shipped. Specimens are transported at ambient temperature by mail or courier.
3. 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

QuantiFERON®-TB Gold In-Tube (IT) is an *in vitro* diagnostic test using a peptide cocktail containing three different proteins to stimulate cells in heparinized whole blood. Detection of interferon-γ (IFN-γ) by Enzyme-Linked Immunosorbent Assay (ELISA) is used to identify *in vitro* responses to these peptide antigens that are associated with *Mycobacterium tuberculosis* infection. QuantiFERON®-TB Gold IT is an indirect test for *M. tuberculosis* infection (including disease) and is intended for use in conjunction with risk assessment, radiography and other medical and diagnostic evaluations.

Please read and follow the complete directions carefully!

Collection and Transport of Whole Blood Specimens

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 to mtphl@mt.gov.

1. Nil Control (Grey cap with white ring).
2. TB Antigen (Red cap with white ring).
3. Mitogen Control (Purple cap with white ring).

Antigens have been dried onto the inner wall of the blood collection tubes so it is essential that the contents of the tubes be thoroughly mixed with the blood. The tubes must be transferred to a 37ºC ± 1ºC incubator as soon as possible and within 16 hours of collection.

The following procedures should be followed for optimal results:

1. For each subject collect 1 mL of blood by venipuncture directly into each of the QuantiFERON®-TB Gold IT blood collection tubes. *****Note: The 1 mL volume is very important in ensuring accurate results. The use of a syringe is a good way to ensure the volume requirement is met.***
   - 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.
   The black mark on the side of the tubes indicates the 1mL fill volume. If the level of blood in any tube is not close to the indicator line, it is recommended to obtain another blood sample. Under or over-filling of the tubes may lead to erroneous results.
   - If a "butterfly needle" is being used to collect blood, a "purge" tube should be used to ensure that the tubing is filled with blood prior to the QuantiFERON®-TB Gold IT tubes being used.
2. Mix the tubes by **SHAKING VIGOROUSLY** for 5 seconds to ensure that **the entire inner surface of the tube** has been coated with the blood.
   - Thorough mixing is required to ensure complete integration of the tube's contents into the blood.
3. Label tubes appropriately.
   - Ensure each tube (Nil, TB Antigen, Mitogen) is identifiable by its label or other means once the cap is removed.
4. The tubes must be **transferred to a 37°C ± 1ºC incubator** as soon as possible, and **within 16 hours of collection.** Prior to incubation, maintain tubes at room temperature (22°C ± 5ºC). Do not refrigerate or freeze the blood specimens.
5. If the blood is not incubated immediately after collection, **re-mixing** of the tubes by vigorous shaking **for 5 seconds** must be repeated **immediately prior to incubation**.
6. Incubate the tubes **UPRIGHT** at 37°C ± 1ºC for 16 to 24 hours. The incubator does not require CO_2 or humidification.
7. Following 37ºC ± 1ºC incubation, blood collection tubes may be transported between 2°C and 27°C. **Specimens must be received in the laboratory within 3 days of incubation.**
8. Complete a standard laboratory request form (see page 65); **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 instructional video on the mixing and storage of blood collection tubes is available at http://www.cellestis.com/. Click on the link on the left side of the page: QuantiFERON®-TB Gold In-Tube, Technical Information, Technical Resources, Instructional Video.

QUESTIONS? Contact the laboratory 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 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, Toxoplasma, etc.) OR IgM testing is available. 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 patient name or other identifier, and the collection date. Completely fill out the standard laboratory request form (see page 65).

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

Microtest 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 Microtest 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 Microtest 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 Microtest Transport Media.
Endocervical Specimens	Place swab from cervix in Microtest Transport Media, break off at the score line, and tightly cap.
Eye (Conjunctival) Specimens	Place swab from conjunctiva in Microtest Transport Media, break off at the score line, and tightly cap.
Lesion Swabs/Scrapings	Place swab from fresh lesion into Microtest 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 Microtest 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 Microtest Transport Media, trim shaft below the cap line, and tightly cap.
Rectal Swab	Place swab into Microtest Transport Media, break off at the score line, and tightly cap.
Saliva	Mix an equal portion of saliva with Microtest Transport Media.
Stool	Emulsify a small portion of the stool (smaller than a pea) in Microtest Transport Media.
Throat Swab	See detailed instructions under Amplification Test Collection. Place swab into Microtest Transport Media, break off at the score line, and tightly cap.
Urethral Swab	Place swab into Microtest Transport Media, break off at the score line, and tightly cap.
Urine	Mix an equal portion of urine with Microtest Transport Media.
Vesicular Fluid	Aspirate fluid from fresh unbroken vesicle and place into Microtest Transport Media.

Make certain tube is labeled with patient identifier 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 (see page 65) 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

Microtest 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 Microtest 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 Microtest Transport Media, break off at the score line, and tightly cap.
Eye (Conjunctival) Specimens	Place swab from conjunctiva in Microtest 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 Microtest Transport Media.
Nasopharyngeal Swab	Use the flexible shaft small dacron swab to collect the specimen. Place swab into Microtest Transport Media, trim swab so that the shaft is below the cap line, and tightly cap.
Rectal Mucosa	Place swab into Microtest Transport Media, break off at the score line, and tightly cap.
Throat Swab	Place swab into Microtest 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 Microtest Transport Media, break off at the score line, and tightly cap.

Make certain tube is labeled with patient identifier 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 (see page 65) 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

Various 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. (See example on page 65)

A specific form for Chlamydia/gonorrhea screening only; this form collects additional information for public health program planning. (See example on page 66)

A newborn screening panel form; this form contains the dried blood spot collection kit. (See example on page 68)

Examples of each form are included on the following pages, as well as specific instructions on filling out the Chlamydia/GC and Newborn Screening forms.

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

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

P.O. Box 4369 Helena, MT 59604-4369
(406) 444-3444 (800) 821-7284 CLIA ID #27D0652531

PATIENT INFORMATION

LAST NAME

FIRST NAME

PATIENT ID #

DATE OF BIRTH / /

GENDER ☐ Male ☐ Female

MEDICAID #

PROVIDER INFORMATION

PHYSICIAN / CLINICIAN NAME

UPIN #

LAB USE ONLY

TEST(S) REQUESTED INFORMATION

Serology:

- ☐ TORCH Panel IgG
- ☐ Tick Borne Disease Panel
- ☐ Hepatitis Acute Panel
- ☐ Blood Lead
- ☐ Brucella Antibody
- ☐ CTFV IgG Serology
- ☐ Cytomegalovirus IgG Antibody
- ☐ Cytomegalovirus IgM Antibody
- ☐ Fluorescent Treponemal Antibody (FTA-ABS)
- ☐ Hantavirus IgG & IgM Serology
- ☐ Herpes Simplex Virus IgG Serology
- ☐ HIV-1 Antibody
- ☐ Legionella IgG Serology
- ☐ 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 Serology
- ☐ Syphilis Serology, Quantitative
- ☐ Toxoplasma IgG Antibody
- ☐ Toxoplasma IgM Antibody
- ☐ Tularemia Antibody
- ☐ Varicella Zoster Virus IgG Serology
- ☐ West Nile Virus IgM Serology
- ☐ West Nile Virus IgG Serology
- ☐ Hepatitis B Surface Antigen
- ☐ Hepatitis B Surface Antibody
- ☐ Hepatitis B Total Core Antibody
- ☐ Hepatitis B Core IgM Antibody
- ☐ Hepatitis A IgM Antibody
- ☐ Hepatitis C Antibody
- ☐ HCV RNA Quantitation

Surveillance Cultures (no charge):

- ☐ GC Confirmation/Susceptibility
- ☐ Salmonella/Shigella/E. coli
- ☐ ESBL Confirmation
- ☐ MRSA Confirmation
- ☐ VRE Confirmation
- ☐ Influenza Confirmation

Chlamydia Culture:

- ☐ Chlamydia Culture

Virus Culture:

- ☐ Respiratory Virus Isolation
- ☐ Enteric Virus Isolation
- ☐ CNS Virus Isolation
- ☐ Virus Isolation
- ☐ Cytomegalovirus Isolation
- ☐ Herpes Simples Virus Isolation
- ☐ Varicella Zoster Virus Isolation
- ☐ RSV Direct Detection

Nucleic Acid Amplification:

- ☐ Chlamydia and Gonorrhea (APTIMA)
- ☐ Chlamydia Only (APTIMA)
- ☐ Gonorrhea Only (APTIMA)
- ☐ Varicella Zoster PCR
- ☐ Enterovirus NAAT
- ☐ Influenza A PCR
- ☐ Influenza B PCR
- ☐ Adenovirus PCR
- ☐ Herpes Simplex Virus PCR
- ☐ Norovirus PCR
- ☐ M. tuberculosis Direct Amplification
- ☐ Bordetella pertussis/parapert PCR

Microbiology:

- ☐ Autoclave Monitoring-BT Test
- ☐ Chemclave Monitoring Test
- ☐ Enteric Panel Culture
- ☐ Campylobacter screen
- ☐ Yersinia screen
- ☐ Vibrio screen
- ☐ EHEC (STEC) Toxin Test
- ☐ Clostridium difficile Toxin Test
- ☐ Bacteriology Culture/ID, Aerobic
- ☐ Bacteriology Culture/ID, Anaerobic
- ☐ BT Agent Rule Out (list in Comments)
- ☐ Bordetella pertussis Culture/ID
- ☐ Legionella Direct Detection
- ☐ Legionella Culture/ID
- ☐ Neisseria gonorrhoeae Culture/ID
- ☐ Streptococcus Group A Culture Screen
- ☐ TB Mycobacteria Culture/ID
- ☐ Fungus Culture/ID
- ☐ Ova and Parasite Exam
- ☐ Cryptosporidium/Cyclospora Detection
- ☐ Malaria Screen
- ☐ Modified Acid Fast Stain

Test(s) Requested (If Not Listed)

Comments / Pertinent Information / Symptoms

SPECIMEN COLLECTION DATE / /

DATE OF ONSET / /

SPECIMEN SOURCE

- ☐ Throat/NP Swab
- ☐ Cervical Swab
- ☐ CSF
- ☐ Stool/Rectal Swab
- ☐ Urethral Swab
- ☐ Bronchial Washings
- ☐ Lesion Swab
- ☐ Sputum
- ☐ Other _____ (Specify)
- ☐ Urine
- ☐ EDTA Blood
- ☐ Pleural Fluid
- ☐ Acute Serum
- ☐ Convalescent Serum
- ☐ Serum Screen Only

38558

DPHHS PHL 0808

Sample Form
Sample Form

Chlamydia/GC Screening Requisition Form

This form collects additional demographic information for public health program planning. Please submit this completed form with requests for Chlamydia screening.

MONTANA DEPARTMENT OF PUBLIC HEALTH & HUMAN SERVICES

Public Health Lab CT/GC Form

P.O. Box 4369 Helena, MT 59604-4369
(406) 444-3444 (800) 821-7284 CLIA ID # 27D0652531

3327061

Sample Form

PATIENT INFORMATION

LAST NAME

FIRST NAME

PATIENT ID #

DATE OF BIRTH / /

ZIP CODE OF PATIENT

MEDICAID #

GENDER
☐ Male ☐ Female

RACE *(Check all that apply)*
☐ White
☐ Black
☐ American Indian/Alaska Native
☐ Asian
☐ Native Hawaiian/Other Pacific Islander
☐ Unknown / Not Reported

ETHNICITY
☐ Hispanic ☐ Non-Hispanic ☐ Unknown

PROVIDER INFORMATION

PHYSICIAN/CLINICIAN NAME

UPIN #

MTPHL USE ONLY

CLINICAL INFORMATION

RISK HISTORY *(Check all that apply)*
☐ No Risk History
☐ > 1 partner in past 60 days
☐ New partner in past 60 days
☐ Previous Chlamydia + in last 12 mo.
☐ Does not always use condoms

REASON FOR VISIT *(Check all that apply)*
☐ Symptomatic
☐ Exposed to STD Past 60 days
☐ Chlamydia + in Past 3 Mos.
☐ Client Meets Screening Criteria
☐ IUD Insertion
☐ Pregnancy Test Visit
☐ Patient Request

CLINICAL SIGNS *(Check all that apply)*
☐ Cervical Friability
☐ Mucopus
☐ PID
☐ Urethritis
☐ None

DID YOU PRESUMPTIVELY TREAT THIS PATIENT FOR CHLAMYDIA?
☐ Yes ☐ No

MTPHL 0409

TEST(S) REQUESTED INFORMATION

SPECIMEN COLLECTION DATE / /

TEST REQUESTED
☐ Chlamydia & Gonorrhea
☐ Gonorrhea Only
☐ Chlamydia Only

SOURCE
☐ Cervical
☐ Urethral
☐ Urine
☐ Rectal
☐ Throat
☐ Vaginal
☐ Other _____ *(Specify)*

42777

Chlamydia Lab/Data Form Instructions

PATIENT NAME: Please print clearly. LAST NAME first. The last name will be transformed into a numeric code and combined with date of birth to create a confidential ID code for date transmission.

DATE OF BIRTH: Please record in the MONTH/DAY/YEAR fashion. This field MUST be completed.

PATIENT ZIP CODE: Please print clearly and record the 5 digit zip code of the patient's residence. This will be used to determine the geographic distribution of Chlamydia.

SPECIMEN COLLECTION DATE: This is the date the patient was seen at the clinic and a specimen for Chlamydia testing was obtained. Please record in the MONTH/DAY/YEAR fashion. This field MUST be completed.

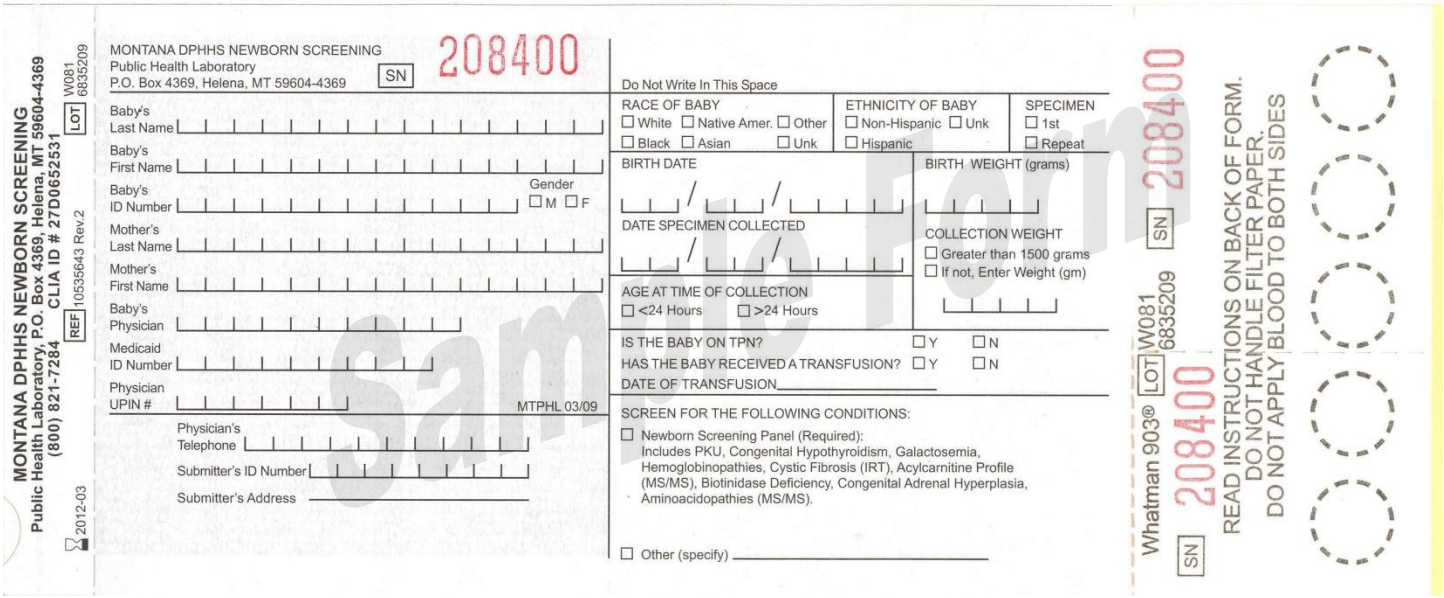
TEST REQUESTED: You have the option of picking the combination Ct/GC test, or each one individually

SOURCE: Please select only one source.

RACE: (check all that apply) This information is obtained from the patient.	__White __Black __ American Indian/Alaska Native __Asian __ Native Hawaiian/Other Pacific Islander __Unknown / Not Reported
ETHNICITY: (check only one box) If unsure, ask the patient if they consider themselves to be Hispanic.	__ Hispanic __ Non-Hispanic __ Unknown
RISK HISTORY: (check all that apply) First three factors are self-explanatory. Previous Chlamydia + refers to whether the patient has had a positive Chlamydia test during the past year.	__ No Risk History __ >1 partner past 60 days __ New partner past 60 days __ Previous Chlamydia + in last 12 months __ Does not always use condoms
REASON FOR EXAM: (check all that apply) This information is obtained from the patient, or is determined by the clinician seeing the patient.	__ Symptomatic __ Exposed to STD Past 60 days __ Chlamydia + in Past 3 Mos. __ Client Meets Screening Criteria __ IUD insertion __ Pregnancy Test Visit __ Patient Request
CLINICAL SIGNS: (check all that apply) Cervical Friability refers to easily induced bleeding with the initial swab. Mucopus refers to yellow or green mucopurulent discharge from the cervix, PID refers to Pelvic Inflammatory Disease. Signs and symptoms suggestive of PID include: abdominal pain/tenderness on pelvic exam, vaginal discharge/bleeding, dysuria, fever and sometimes nausea or vomiting. Urethritis refers to urethral discharge or dysuria. None refers to absence of all of the above clinical signs on exam.	__ Cervical Friability __ Mucopus __ PID __ Urethritis __ None
TREATMENT: Based on clinic/epidemiologic assessment, was the patient sent home with medication (or prescription) to treat Chlamydia without waiting for Chlamydia test results?	Did you presumptively treat this patient for Chlamydia? __ Yes __ No

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
(800) 821-7284 CLIA ID # 27D0652531
LOT W081 6835209
REF 10535643 Rev.2
2012-03

MONTANA DPHHS NEWBORN SCREENING
Public Health Laboratory
P.O. Box 4369, Helena, MT 59604-4369
SN 208400

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

Do Not Write In This Space

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)

Sample Form

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

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.

Lyme Disease Report Form (can be downloaded from CDC website)

http://www.cdc.gov/ncidod/dvbid/lyme/resources/LymeDiseaseCaseReportForm.pdf

LYME DISEASE CASE REPORT

Patient's Name: _____ First Name: _____ Phone No.: ( ) _____

Address: _____ City: _____

Detach before sending to CDC

DEPARTMENT OF HEALTH & HUMAN SERVICES
Centers for Disease Control and Prevention

LYME DISEASE CASE REPORT

Approved OMB No. 0920-0004

State:	County:	Zip:

Age:	Sex:	Patient Ethnicity: (select one)	Patient Race: (select all that apply)
_____	☐ Male ☐ Female ☐ Unspecified	☐ Hispanic/Latino ☐ Unk ☐ Not Hispanic/Latino	☐ American Indian or Alaska Native ☐ Black or African American ☐ White ☐ Unk ☐ Asian ☐ Native Hawaiian or Pacific Islander ☐ Other

– SYMPTOMS AND SIGNS OF CURRENT EPISODE – *(PLEASE MARK EACH QUESTION)*

DERMATOLOGIC:
Erythema migrans (**physician diagnosed EM at least 5 cm in diameter**) ..... ☐ Yes ☐ No ☐ Unk

RHEUMATOLOGIC:
Arthritis characterized by brief attacks of joint swelling ..... ☐ Yes ☐ No ☐ Unk

NEUROLOGIC:
Bell's palsy or other cranial neuritis ..... ☐ Yes ☐ No ☐ Unk
Radiculoneuropathy ..... ☐ Yes ☐ No ☐ Unk
Lymphocytic meningitis ..... ☐ Yes ☐ No ☐ Unk
Encephalitis/Encephalomyelitis ..... ☐ Yes ☐ No ☐ Unk
CSF tested for antibodies to B. burgdorferi ..... ☐ Yes ☐ No ☐ Unk
Antibody to B. burgdorferi higher in CSF than serum ..... ☐ Yes ☐ No ☐ Unk

CARDIOLOGIC:
2nd or 3rd degree atrioventricular block ..... ☐ Yes ☐ No ☐ Unk

Other clinical: _____

Date of onset of first symptoms:	Date of diagnosis:	Date of report to health agency
Mo. Day Year	Mo. Day Year	Mo. Day Year

– OTHER HISTORY –

Was the patient hospitalized for the current episode ..... ☐ Yes ☐ No ☐ Unk

Name of antibiotic(s) used this episode_____ Use in days _____

Was the patient pregnant at the time of illness ..... ☐ Yes ☐ No ☐ Unk

Where was the patient most likely exposed: County _____ State: _____

– LABORATORY RESULTS –

	Positive	Negative	Equivocal	Not done/Unk
Serologic test results:	☐	☐	☐	☐
Culture results:	☐	☐	☐	☐
Other (specify) _____	☐	☐	☐	☐

Physician's name:	Phone No.	Person completing form:	Phone No.
_____	( )_____	_____	( )_____
Address:		**Address:**	
_____		_____	

– FOR INTERNAL USE ONLY –

State ID No.	CDC ID No.	Date reported to CDC
		Mo. Day Year

Public reporting burden of this collection of information is estimated to average 10 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to CDC, Project Clearance Officer, 1600 Clifton Road, MS E-71, Atlanta, GA 30333, ATTN: PRA (0920-0004). Do not send the completed form to this address.

CDC 52.60 Rev. 05-2004 LYME DISEASE CASE REPORT Page 1 of 2

LYME DISEASE NATIONAL SURVEILLANCE CASE DEFINITION

Lyme disease is a systemic, tick-borne disease with protean manifestations, including dermatologic, rheumatologic, neurologic, and cardiac abnormalities. The best clinical marker for the disease is the initial skin lesion. erythema migrans (EM), that occurs in 60% to 80% of patients.

A case of Lyme disease is defined as follows:

1. A person with erythema migrans; or
2. A person with at least one late manifestation and laboratory confirmation of infection.

NOTE: *It should be emphasized that is an epidemiologic case definition intended for surveillance purposes only.*

General clinical epidemiologic definitions:

1. **Erythema migrans (EM):**
For purposes of surveillance, EM is a skin lesion that typically begins as a red macule or papule and expands over a period of days or weeks to form a large round lesion, often with partial central clearing. A solitary lesion must reach at least 5 cm in size. Secondary lesions may also occur. Annular erythematous lesions occuring within several hours of a tick bite represent hypersensitivity reactions and do not qualify as EM. In most patients, the expanding EM lesion is accompanied by other acute symptoms, particularly fatigue, fever, headache, mild stiff neck, arthralgias, or myalgias. These symptoms are typically intermittent. The diagnosis of EM must be made by a physician. Laboratory confirmation is recommended for persons with no known exposure.

2. **Late manifestations:**
These include any of the following when an alternate explanation is not found.

   a. **Musculoskeletal system:**
   Recurrent, brief attacks (weeks or months) of objective joint swelling in one or a few joints sometimes followed by chronic arthritis in one or a few joints. Manifestations not considered as criteria for diagnosis include chronic progressive arthritis not preceeded by brief attacks and chronic symmetrical polyarthritis. Additionally, arthralgias, myalgias, or fibromyalgia syndromes alone are not accepted as criteria for musculoskeletal involvement.

   b. **Nervous system:**
   Lymphocytic meningitis, cranial neuritis, particularly facial palsy (may be bilateral), radiculoneuropathy or rarely, encephalomyelitis alone or combination. Encephalomyelitis must be confirmed by showing antibody production against B. burgdorferi in the cerebrospinal fluid (CSF), demonstrated by a higher titer of antibody in CSF than in serum. Headache, fatigue, paresthesias, or mild stiff neck alone are not accepted as criteria for neurologic involvement.

   c. **Cardiovascular system:**
   Acute onset, high grade (2nd or 3rd degree) atrioventricular conduction defects that resolve in days to weeks and are sometimes associated with myocarditis. Palpitations, bradycardia, bundle branch block, or myocarditis alone are not accepted as criteria for cardiovascular involvement.

3. **Exposure:**
Exposure is defined as having been in wooded, brushy, or grassy areas (potential tick habitats) in an endemic county no more than 30 days prior to the onset of EM. A history of tick bite is not required.

4. **Endemic county:**
An endemic county is one in which at least 2 definite cases have been previously acquired or a county in which a tick vector has been shown to be infected with B. burgdorferi.

5. **Laboratory confirmation:**
Laboratory confirmation of infection with B. burgdorferi is established when a laboratory isolates the spirochete from tissue or body fluid, detects diagnostic levels of IgM or IgG antibodies to the spirochete in serum or CSF, or detects a significant change in antibody levels in paired acute and convalescent serum samples. States may determine the criteria for laboratory confirmation and diagnostic levels of antibody. Syphilis and other known causes of biologic false positive serologic test results should be excluded, as appropriate, when laboratory confirmation has been based on serologic testing alone.

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

Quantity	Kits	Boxes	Supplies
_____	□	□	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)

_____Microtest 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)

_____Chlamydia / GC Request Forms (green)

_____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/

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.