Laboratory Test Directory

State of Alaska
Department of Health and Social Services
Division of Public Health
Section of Laboratories
Revised 06/11/15

Laboratory Contacts

Alaska State Public Health Lab
Anchorage Laboratory
5455 Dr. Martin Luther King Jr. Ave
Anchorage, AK 99507
OR
PO Box 196093
Anchorage, AK 99519-6093

Phone: 907-334-2100
Fax: 907-334-2161

Business Hours:
8 am – 5 pm Monday – Friday

Emergency Calls After Hours
1-855-222-9918

Alaska State Virology Lab
Fairbanks Laboratory
University of Alaska, Fairbanks
931 Sheenjek Drive 99706
OR
PO Box 60230
Fairbanks, AK 99706-0230

Phone: 907-371-1000
Fax: 907-474-4036

Business Hours:
7:30 am – 4:30 pm Monday – Friday

Emergency Calls After Hours
1-855-371-1001 option 6

Alaska State Public Health Laboratory Website

Chief of the Section of Laboratories
Dr. Bernd Jilly
Phone: 907-334-2109

Deputy Director of Laboratories
Dr. Jack Chen
Phone: 907-371-1017

State Public Health Laboratory – Anchorage
Dr. Jennifer Eastman, Clinical Microbiology Laboratory Manager
Phone: 907-334-2108

State Virology Laboratory – Fairbanks
Bonnie Bond, Lab Manager – Phone: 907-371-1005
Molecular – 907-371-1002
Viral Culture – 907-371-1003
Immunology – 907-371-1004

Analytical Chemistry
State Public Health Laboratory - Anchorage
Dave Verbrugge
Phone: 907-334-2156

Bioterrorism / Special Pathogens / Molecular Biology
State Public Health Laboratory – Anchorage
Dr. June Pounder
Phone: 907-334-2110

Table of Contents

Submitter Criteria 5
Specimen Collection Kits 6
Request Forms and Specimen Labeling 7
Laboratory Request Forms: 8
Reports and Results 9
Acetone 10
Acid Fast Stain for *Isospora*, *Cyclospora*, and *Cryptosporidium* Oocysts 10
Adenovirus 11
Aerobic Bacterial Culture ID 11
Aeromonas 12
Anaerobic Bacterial Culture ID 12
Bacillus anthracis 13
Blood Parasites 14
Botulinum Neurotoxin, *Clostridium botulinum* 15
Brucella spp. 16
Burkholderia mallei, Burkholderia pseudomallei 17
Campylobacter 18
Carboxyhemoglobin 18
Chemical Terrorism Event 19
Chlamydia & Gonorrhea (NAAT) 20
Coxiella burnetii 21
Cyanide 21
Cytomegalovirus (CMV) 22
Diphtheria Culture 22
Ebola Virus 23
Ectoparasites 23
Enteric Stool Culture 24
Enterovirus 25
Escherichia coli O157 25
Ethanol 26
Ethylene Glycol 26
Fluorescent Treponemal Antibody (FTA-ABS) 26
Francisella tularensis 27
Giardia/*Cryptosporidium* by DFA 27
Haemophilus influenzae Culture/Serotyping 28
Hepatitis (Viral) 28
Herpes Simplex Virus (HSV) 29
HIV: Human Immunodeficiency Virus 30
Human Metapneumovirus (hMPV) 31
Influenza Virus 31
Isopropanol 31
Lead (Blood) 31
Mercury in Hair 32
Metals 32
Methanol 33
Mumps Virus 33

Mycobacterium Culture (TB) 34
Neisseria gonorrhoeae Culture 35
Neisseria meningitidis Culture/Serotyping 35
Norovirus 36
Orthopox Viruses 36
Ova & Parasite Exam 37
Parainfluenza Virus 37
Pertussis PCR 38
Pulsed-Field Gel Electrophoresis (PFGE) 38
Pinworm Exam 39
Plesiomonas shigelloides 39
Rabies 40
Reference Bacterial Culture 40
Respiratory Viral Panel (RVP) 41
Rhinovirus 42
Ricin 42
Ricinine 43
Respiratory Syncytial Virus (RSV) 43
RPR (Rapid Plasma Reagin) 43
Rubella 44
Rubeola (Measles) 45
Salmonella Serotyping 46
Shiga-toxin testing (STEC) 46
Shigella Serotyping 47
Strep Screen (Group A) 47
Streptococcus Isolates 48
Syphilis Screen – Rapid Plasma Reagin (RPR) 48
Toxic Alcohols & Glycols 49
Trichomonas (NAAT) 50
Varicella Zoster 51
Vibrio species 52
Yersinia enterocolitica 53
Yersinia pestis 54
Botulism Detailed Collection Instructions 55
Chlamydia & Gonorrhea Pharyngeal Swab Collection Instructions 56
Chlamydia & Gonorrhea Rectal Swab Collection Instructions 57
Chlamydia & Gonorrhea Vaginal Swab Collection Instructions (for patients) 58
Interpretation of Hepatitis Results 60
Herpes Type 1 and Type 2 IgG Antibody 61
Human Immunodeficiency Virus (HIV) 62
Norovirus Detailed Collection Instructions 63
Pertussis PCR: Detailed Collection Instructions 64
Rabies Specimen Submission Instructions 65
Stool Culture and Parasitology Detailed Collection Instructions 67
Tuberculosis/*Mycobacterium* Detailed Collection Instructions 68
Instructions for Collecting Sputum Samples 69
MTB PCR Testing Information Sheet 70

Submitter Criteria

Clinical:

- All health care providers licensed or certified by the State of Alaska.
- Laboratories seeking reference or confirmatory testing.

Environmental:

- Animals suspected of rabies may be submitted by health officers, public health nurses, veterinarians, physicians, law enforcement and pet owners with prior approval from Section of Epidemiology 907-269-8000 during business hours or 1-800-478-0084 during non-business hours.
- Bioterrorism or Chemical Terrorism specimens may be submitted by law enforcement, health care providers and diagnostic laboratories upon consultation with Section of Epidemiology.
- Biomonitoring specimens may be submitted with approval from the Section of Epidemiology 907-269-8000 during business hours or 800-478-0084 during non-business hours.

Specimen Collection Kits

The State of Alaska Public Health Laboratories provides specimen collection kits free of charge to all Alaska Health Care Providers.

Please monitor expiration dates carefully. Samples collected in expired transport media are unsatisfactory and will not be tested.

Supply Request Form

APTIMA® CT/GC Collection Kits	Urine Transport Unisex Swab Transport (Endocervical, Urethral, Eye, Rectal, Oropharyngeal) Vaginal Transport
ETM	Enteric Transport Medium (Stool Cultures)
Ova and Parasite Kit (O&P)	10% Neutral Formalin and PVA Fixative Set
Cary Blair Swabs	Used for transport of isolated enteric pathogens
TB Sputum Cones	50 mL cones with sodium carbonate preservative
Norovirus	Request from Section of Epidemiology: 1-907-269-8000 during business hours OR 1-800-478-0084 during non-business hours
Diphtheria	Culture Swab EZ
Pinworm	Pinworm Paddle
UTM Kit (Viral Culture & PCR)	UTM Kit = Universal Transport Media (UTM) with collection swabs: Swabs are made of synthetic, plastic materials only. Metal, wood, calcium alginate or cotton material will NOT be accepted.

** Please note – the Alaska State Public Health Laboratories do NOT supply **blood collection tubes** or **Biohazard Bags**.**

Request Forms and Specimen Labeling

- A properly completed **request form** must accompany each diagnostic specimen. The following fields are highlighted on the Lab Request and are required.
  - Patient's first and last name &/OR other identifier. (example: chart #, medical records #, prison ID)
  - Date of birth
  - Gender
  - Specimen source
  - Date of specimen collection (time if applicable)
  - Provider name & mailing address
  - Test(s) requested
  - Patient Status (Fairbanks requisitions only):
    In or Out-patient, Long term care, Pregnant

- Identifiers on the specimen itself should match the Lab Request **exactly**. At a minimum, the specimen should be labeled with:
  - The patient's first and last name OR a unique identifier
  - The patient's date of birth (DOB) OR Other Identifying Number

- Specimens must be collected and shipped properly. Please refer to specific collection and shipping instructions for testing.

- To request additional testing on a specimen held by the laboratories, please fax or mail a new request form requesting the additional testing. Testing cannot be performed until the request for additional testing is received.

- Specimens that have leaked in transit will be rejected as unsatisfactory at time of receipt.

- **Unlabeled specimens are UNSATISFACTORY and will not be processed.**

Laboratory Request Forms:

Alaska State Public Health Laboratory - Anchorage
(http://dhss.alaska.gov/dph/Labs/Documents/publications/AncSupplyReq.pdf)

Alaska State Virology Laboratory - Fairbanks
(http://dhss.alaska.gov/dph/Labs/Documents/publications/FbxSupplyReq.pdf)

Alaska State Virology Laboratory - Rabies
(http://dhss.alaska.gov/dph/Labs/Pages/publications/default.aspx)

Specimen Shipping

For current shipping regulations and instructions, please refer to IATA, DOT, US Postal Service, and American Society of Microbiology (ASM).

http://www.iata.org/index.htm

US DOT - Transporting Infectious Substances Safely (https://hazmatonline.phmsa.dot.gov/services/publication_documents/Transporting%20Infectious%20Substances%20Safely.pdf)

http://www.usps.com/

ASM Sentinel Laboratory Guidelines for Packaging & Shipping (http://www.asm.org/index.php/guidelines/sentinel-guidelines)

Specimens must be shipped according to current federal, state and local laws. Upon request, Alaska State Laboratories provides ambient temperature shipping boxes that meet current shipping regulations.

Supply Request Form
(http://dhss.alaska.gov/dph/Labs/Documents/publications/LabSupplyRequest.pdf)

Unless otherwise authorized, the State of Alaska does not provide postage or funds to ship samples for testing to the laboratories.

Reports and Results

- Preliminary and final reports will be mailed to submitters as testing is completed.

- Submitters will be notified of significant or positive results by phone or fax (if requested).

- Section of Epidemiology is notified of results reportable to the Alaska Division of Public Health, but it is also the responsibility of the Health Care Provider and/or the referral laboratory to report accordingly.

  Infectious Diseases Reportable to the Alaska Division of Public Health
  (http://www.epi.hss.state.ak.us/pubs/conditions/default.stm)

Test	Acetone
	See Toxic Alcohols and Glycols

Test	Acid Fast Stain for *Isospora*, *Cyclospora*, and *Cryptosporidium* Oocysts
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Isosporosis, Cyclosporosis, Cryptosproidiosis
Organism(s)	*Isospora belli, Cyclospora cayetanensis, Cryptosporidium parvum*
Test Method	Acid-fast stain
Specimen	Stool
Collection Container	O & P Collection Kit
Storage/ Transport	Ambient temperature.
Results	*Isospora belli* Observed/Not Observed *Cyclospora cayetanensis* Observed/Not Observed *Cryptosporidium parvum* Observed/Not Observed
Turnaround Time	3-5 days

Test	Adenovirus
Testing Lab	Alaska State Virology Laboratory - Fairbanks
Disease(s)	Respiratory: Common cold, croup, bronchitis, pneumonia, Non-Respiratory: Conjunctivitis, skin rash, tissue lesions
Virus(s)	Adenovirus (many groups and subtypes)
Test Method	Respiratory Specimens: PCR -See Respiratory Viral Panel (RVP) Non-Respiratory Specimens: Culture and serum neutralization
Specimen	Respiratory: Nasopharyngeal Swab (NP) recommended for RVP Non-Respiratory: Eye exudate, lesion exudate or tissue
Collection	•Swabs *(use synthetic material swabs only – cotton or calcium-alginate tips and wooden or metal shafts are not acceptable)*: Place swab(s) in UTM. •Respiratory "wash": Transfer up to 3 ml to UTM. •Tissue: transfer a "pea" sized piece of tissue to UTM.
Storage / Transport	Store refrigerated Ship with cool packs
Results	RVP: Positive or Target not Detected Viral Culture: Virus name & Subtype or No Virus Recovered
Turnaround Time	RVP: 1–3 days after receipt in Lab Viral Culture: 1-3 weeks after receipt in Lab

Test	Aerobic Bacterial Culture ID
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Sepsis, infection
Organism(s)	Aerobic bacteria
Test Method	Culture and identification
Availability	Referrals only, no routine cultures.
Specimen	Blood, CSF, Tissue, Wounds
Storage / Transport	Ambient temperature Package and label as Biological Specimens, Category B.
Results	Organism identified (genus and species)
Turnaround Time	2-5 days

Test	*Aeromonas*
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Bacterial gastroenteritis
Organism(s)	*Aeromonas* species
Test Method	Culture
Specimen	Stool in Enteric Transport Media (ETM)
Special Conditions	Specimen should not be contaminated with water, urine, barium, antibiotics or mineral oil.
Specimen Collection	1. Collect stool in clean dry container or on plastic wrap stretched across toilet. 2. **Sample must be placed into ETM within one hour of sample collection**. 3. Carefully open ETM, use scoop mounted in lid to place approximately a walnut size amount of stool in to transport. Add enough stool to fill exactly to **red fill line.** Do not overfill.
Storage/ Transport	Ambient temperature
Results	*Aeromonas* species Isolated/Not Isolated
Turnaround Time	2-7 days

Test	Anaerobic Bacterial Culture ID
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease (s)	Sepsis, infection
Organism(s)	Anaerobic bacteria
Test Method	Culture and identification
Availability	Referrals only, no routine cultures. No post-mortem samples.
Special Conditions	Sample must be kept in anaerobic conditions during transport.
Specimen	Blood, Tissue, Wounds
Storage/ Transport	Store and transport at ambient temperature, under anaerobic conditions. Specimens must be received within 24 hours of collection. Package and label as Biological Substance, Category B.
Results	Organism identified (genus and species)
Turnaround Time	3-5 days

Test	*Bacillus anthracis*
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Anthrax infection forms: Cutaneous, gastrointestinal, or inhalation. Malignant pustule, malignant edema, Wool-Sorter disease.
Organism	*Bacillus anthracis*
Availability	All clients upon consultation with Section of Epidemiology 907-269-8000 during business hours or 1-800-478-0084 during non-business hours. Contact the ASPHL prior to submitting samples 907-334-2100.
Specimen	Bacterial isolate, cutaneous lesion, stool, rectal swab, blood cultures, whole blood, sputum, CSF, tissue, nasal swab (for intentional release exposures), environmental samples
Specimen Collection	Refer to ASM Sentinel Level Clinical Microbiology Guidelines (http://www.asm.org/index.php/guidelines/sentinel-guidelines). Contact the ASPHL with questions.
Storage/ Transport	Store refrigerated. Ship with cool packs. Ambient temperature shipping is acceptable. Package and label as Biological Substance, Category B, ship as quickly as possible.
Results	Presumptive *B. anthracis* detected/not detected Confirmatory *B. anthracis* detected/not detected
Turnaround Time	2-5 days

Test	Blood Parasites
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Malaria, Babesiosis, Trypanosomiasis
Organism(s)	*Plasmodium falciparum, P. malariae, P. ovale, P. vivax, Babesia species, and Trypanosoma species*
Test Method	Microscopic examination
Specimen	EDTA blood sample and peripheral blood smears (both thick and thin)
Collection	EDTA blood tube and peripheral blood smears (thick and thin)
Specimen Collection	Refer to CDC DPDx Website: http://www.dpd.cdc.gov/dpdx/HTML/DiagnosticProcedures.htm
Special Conditions	Specimens should be collected before treatment is initiated. Multiple specimens may be necessary at 8 to 12 hour intervals over 2 to 3 days. Include travel history if applicable. CDC Malaria Case Surveillance Report Form: http://www.cdc.gov/malaria/report.html
Storage/ Transport	Store refrigerated. Ship ambient temperature. Do not freeze. Samples >7 days old will not be tested.
Results	No Blood Parasites observed *Plasmodium falciparum* *Plasmodium malariae* *Plasmodium ovale* *Plasmodium vivax* *Babesia* species *Trypanosoma* species
Turnaround Time	1-2 days

Test	Botulinum Neurotoxin, *Clostridium botulinum*
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Botulism, Foodborne, wound, intestinal, or infant botulism
Organism(s) or Agent(s)	Botulinum neurotoxin producing species of *Clostridium* OR Botulinum neurotoxin
Test Method	Culture and/or toxin assays
Availability	All clients upon consultation with Section of Epidemiology 907-269-8000 during business hours or 1-800-478-0084 during non-business hours. Contact the ASPHL prior to submitting samples 907-334-2100.
Specimen	Stool, enema fluid, gastric aspirate, pre-antitoxin serum, food, and environmental samples. Click here for Botulism Detailed Collection Instructions
Specimen Collection	Refer to ASM Sentinel Level Clinical Microbiology Guidelines (http://www.asm.org/index.php/guidelines/sentinel-guidelines). Contact the ASPHL with questions.
Storage/ Transport	Store refrigerated. Ship with cool packs. Package and label as Biological Substance, Category B, ship as quickly as possible.
Results	Toxin Assays Botulinum neurotoxin detected (type specified) No toxin detected Culture *Clostridium botulinum* isolated (toxin produced typed) *Clostridium botulinum* not isolated No growth
Turnaround Time	Toxin 14 days Culture 7-30 days

Test	*Brucella spp.*
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Brucellosis, Undulant fever, Malta fever
Organism(s)	*Brucella* spp.
Availability	All clients upon consultation with Section of Epidemiology 907-269-8000 during business hours or 1-800-478-0084 during non-business hours. Contact the ASPHL prior to submitting samples 907-334-2100.
Specimen	Organism isolate, blood, serum, spleen, liver, abscess, environmental samples, food
Specimen Collection	Refer to ASM Sentinel Level Clinical Microbiology Guidelines (http://www.asm.org/index.php/guidelines/sentinel-guidelines). Contact the ASPHL with questions.
Storage/ Transport	Store refrigerated. Ship with cool packs. Ambient temperature shipping is acceptable. Package and label as Biological Substance, Category B, ship as quickly as possible.
Results	Presumptive *Brucella* spp. Detected/Not Detected *Confirmed Brucella* spp. Detected/Not Detected *Brucella* serum antibody Titer specified
Turnaround Time	7-21 days

Test	*Burkholderia mallei, Burkholderia pseudomallei*
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Glanders, Melioidosis
Organism(s)	*Burkholderia mallei* or *Burkholderia pseudomallei*
Availability	All clients upon consultation with Section of Epidemiology 907-269-8000 during business hours or 1-800-478-0084 during non-business hours. Contact the ASPHL prior to submitting samples 907-334-2100.
Specimen	Organism isolate, blood, serum, urine, abscesses, tissue aspirates, body fluids (throat, nasal, skin or sputum for intentional release exposures)
Specimen Collection	Refer to ASM Sentinel Level Clinical Microbiology Guidelines (http://www.asm.org/index.php/guidelines/sentinel-guidelines). Contact the ASPHL with questions.
Storage/ Transport	Store refrigerated. Ship with cool packs. Ambient temperature shipping is acceptable. Package and label as Biological Substance, Category B, ship as quickly as possible.
Results	Presumptive *B. mallei* Detected/Not Detected Confirmatory *pseudomallei* Detected/Not Detected
Turnaround Time	3-7 days

Test	*Campylobacter*
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Campylobacteriosis
Organism(s)	*Campylobacter jejuni, Campylobacter coli, Campylobacter* species
Test Method	Culture and identification
Specimen	Pure culture isolates (Cary Blair Transport Swabs) Stool in ETM (see Enteric Stool Culture)
Storage/ Transport	Ship stool at ambient temperature, isolates should shipped on cold packs Package and label as Biological Substance, Category B
Results	*Campylobacter jejuni* *Campylobacter coli* *Campylobacter* species; sent to CDC for confirmation No *Campylobacter* isolated
Turnaround Time	2-5 days
Notes	Laboratories should send all suspected and/or confirmed isolates to ASPHL for confirmation and epidemiological studies.

Test	Carboxyhemoglobin
	See Toxic Alcohols and Glycols

Test	Chemical Terrorism Event
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Agent	**Unknown** toxic chemical exposure(s)
Test Method	Rapid Toxic Screen (performed by the Centers for Disease Control and Prevention in Atlanta, GA)
Availability	Clients with suspected exposure to an **unknown** toxic chemical(s), as determined and prioritized by Epidemiology and law enforcement Contact the ASPHL prior to submitting specimens 907-334-2100.
Specimen	Urine and whole blood
Specimen Collection	Complete instructions are available: CDC Specimen Collection for Chemical Event Response (http://www.bt.cdc.gov/labissues/pdf/Flowchart_CT_Event_Specimen_collection_modified_May2012.pdf) **Urine:** at least 25 mL in a screw-capped plastic container with a plastic lid; freeze immediately. **Whole blood:** Use **three** 5 or 7 mL purple-top (EDTA) tubes, and **One** 3, 5 or 7 mL plasma tube (EITHER gray-top [glycolytic inhibitor, potassium oxalate] OR green-top [sodium heparin]).
Storage / Transport	Refrigerate blood samples. Freeze urine samples. Sample flow may vary according to the specific circumstances of an event, but generally specimens will be delivered to the Alaska State Public Health Laboratory – Anchorage for processing. Specimens from the first 40 victims will be shipped immediately to the Centers for Disease Control and Prevention in Atlanta, Georgia for the Rapid Toxic Screen. Samples from additional victims will be analyzed when the results of the screen are complete. Contact the ASPHL for complete shipping instructions. Also please refer to guidance provided at the CDC website (link above). Package and label as Biological Substance, Category B. Ship urine (frozen on dry ice) and blood samples (refrigerated with cold packs) in separate coolers.
Results	Samples are screened for the presence of over 150 toxic chemicals. Detected chemicals are identified and quantified. Federal and state experts will assist with the interpretation of results.
Turnaround Time	Partial results will be communicated as tests are performed sequentially at CDC, beginning approximately 36 hours after specimen receipt at the Alaska Public Health Laboratory. Full Rapid Toxic Screen results for the first 40 victims will be available approximately 4 days after specimen receipt at the Alaska Public Health Laboratory.

Test	Chlamydia & Gonorrhea (NAAT)
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Chlamydia, Gonorrhea, STD
Organism(s)	*Chlamydia trachomatis* (CT), *Neisseria gonorrhoeae* (GC)
Test Method	Nucleic Acid Amplification (NAAT). Target Mediated Amplification (TMA) for the detection of ribosomal RNA (rRNA) from *Chlamydia trachomatis* and/or *Neisseria gonorrhoeae*.
Availability	Please contact the ASPHL (907-334-2100) to set up an account for testing.
Specimen	Urine Vaginal Endocervical Urethral (male only) Rectal Oropharyngeal Conjunctival on prior approval
Specimen Collection	Gen-Probe APTIMA Combo2 Transport Tubes: Urine Collection Kit (yellow kit): • First catch urine must be added to transport within 24 hours of collection. Vaginal Swab Collection Kit (orange kit): • Follow instruction provided in kit Unisex Swab Collection Kit (white kit): • Used for Endocervical, Urethral, Rectal and Oropharyngeal • Add swabs to transport immediately. • Do not submit white shafted cleaning swabs for testing. Click here for Oropharyngeal Collection Instructions Click here for Rectal Collection Instructions
Special Conditions	**Not a test of cure.** Tests that are performed less than 4-6 weeks after completion of therapy might be falsely positive due to the presence of nonviable organisms.
Storage/ Transport	Ambient temperature Urine specimens must be tested within 30 days of collection, swab specimens within 60 days.
Results	*Chlamydia trachomatis* Positive/Negative *Neisseria gonorrhoeae* Positive/Negative
Turnaround Time	1-2 days

Test	*Coxiella burnetii*
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Q-Fever
Organism(s)	*Coxiella burnetii*
Availability	All clients upon consultation with Section of Epidemiology 907-269-8000 during business hours or 1-800-478-0084 during non-business hours. Contact the ASPHL prior to submitting samples 907-334-2100.
Specimen	EDTA whole blood for PCR collected 1-7 days from onset of symptoms and prior to antibiotics. Serum for IFA (acute 1-7 days and convalescent 21-35 days from onset) Refer to ASM Sentinel Level Clinical Microbiology Guidelines (http://www.asm.org/index.php/guidelines/sentinel-guidelines).
Storage/ Transport	Store refrigerated. Ship with cool packs. Ambient temperature shipping is acceptable. Package and label as Biological Substance, Category B, ship as quickly as possible.
Results	Presumptive *C. burnetii* detected/ not detected Confirmatory (Serum only) *C. burnetii* detected/ not detected
Turnaround Time	2 days for PCR 2-3 weeks for IFA Referral Testing

Test	Cyanide
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Toxic Effect	Inhibition of oxygen use by cells
Test Method	Gas Chromatography with Mass Selective Detection
Availability	Test not performed routinely and only with prior approval. Contact the ASPHL. Phone business hours 907-334-2100; after hours on-call pager 1-800-224-7063.
Specimen	Collect whole blood in one 3, 5 or 7 mL EDTA (purple-top) tube.
Storage/ Transport	Store refrigerated. Ship with cool packs.
Results	Quantitative cyanide concentration
Turnaround Time	4 hours from time of receipt

Test	Cytomegalovirus (CMV)
Testing Lab	Alaska State Virology Laboratory - Fairbanks
Disease(s)	Cytomegalovirus disease, congenital cytomegalovirus syndrome, hepatitis, mononucleosis.
Organism(s)	Cytomegalovirus
Test Method	Viral Culture
Specimen	Nasopharyngeal swab, throat swab, urine, biopsy
Collection	•Swabs *(use synthetic material swabs only – cotton or calcium-alginate tips and wooden or metal shafts are <u>not</u> acceptable)*: Place swab(s) in UTM. •Respiratory "wash": Transfer up to 3 ml to UTM. •Urine: 20-50mL in clean/sterile container (not in UTM) •Tissue: transfer a "pea" sized piece of tissue to UTM.
Storage	Store refrigerated. Ship with cool packs.
Transport	Store refrigerated. Ship with cool packs.
Results	Positive/No Virus Recovered
Turnaround Time	1 to 4 weeks

Test	Diphtheria Culture
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Diphtheria
Organism(s)	*Corynebacterium diphtheriae*
Test Method	Culture and identification
Specimen	Obtain material from the inflamed areas in the nasopharynx. If the membranes are present and can be removed, swab from beneath the membrane.
Collection Container	Culture Swab EZ
Special Conditions	Ship as soon as possible.
Storage/ Transport	Ship at ambient temperature. Package and label as Biological Substance, Category B.
Results	*Corynebacterium diphtheriae* Isolated/Not Isolated
Turnaround Time	3 days

Test	Ebola Virus
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Ebola Virus Disease
Organism(s)	Ebola Virus
Specimen	Minimum of two tubes whole blood (4 mL draw required per tube)
Availability	All clients upon consultation with Section of Epidemiology 907-269-8000 during business hours or 1-800-478-0084 during non-business hours. Contact ASPHL prior to submitting samples 907-334-2100.
Collection Container	EDTA or sodium polyanethol sulfonate (SPS) preservative in plastic tubes
Storage/ Transport	2-8ºC ship on wet ice or cold packs Package and label as Biological Substance, Category B, ship as quickly as possible.
Results	Presumptive Ebola RNA detected Presumptive Ebola RNA not detected
Turnaround Time	1 day for presumptive testing result. Confirmatory testing will be performed at the CDC. If patient is tested less than 3 days after the onset of fever, retesting at 72 hours post-onset may be required.

Test	Ectoparasites
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Ectoparasites, arthropods, lice, crabs, mites, bedbugs
Organism(s)	*Cimex lectularius, Pediculus capitis, Pediculus humanus, Phthirus pubis, Pulex irritans*
Test Method	Morphological identification
Specimen	Suspect arthropod
Specimen Collection	Comb for nits, or use forceps to pluck hair; place into clean, dry tube with secure lid.
Storage/ Transport	Ambient temperature
Results	No Ectoparasites observed *Cimex lectularius* (bed bug) *Pediculus capitis* (head louse) *Pediculus humanus* (body louse) *Phthirus pubis* (crab louse) *Pulex irritans* (human flea)
Turnaround Time	1 day

Test	# Enteric Stool Culture
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Salmonellosis, Shigellosis, Campylobacteriosis, Cholera, Foodborne illness, Food poisoning, enteric bacterial infection, Hemolytic Uremic Syndrome (HUS), bloody stool
Organism(s)	*Salmonella, Shigella, Campylobacter*, *Escherichia coli* O157:H7 NOTE: Additional testing for *Yersinia enterocolitica, Vibrio* species, *Aeromonas* species and *Plesiomonas* species are performed only upon request.
Test Method	Culture and Identification NOTE: Shiga-toxin testing by EIA for Enterohemorrhagic *E. coli* is performed on all stool cultures.
Specimen	Stool in Enteric Transport Media (ETM)
Special Conditions	• Multiple samples must be collected 24-48 hours apart. • Specimen should not be contaminated with water, urine, barium, antibiotics or mineral oil. • Consult laboratory if *Staphylococcus aureus* or *Bacillus cereus* are suspected.
Specimen Collection	1. Collect stool in clean dry container or on plastic wrap stretched across toilet. 2. **Sample must be placed into ETM within one hour of sample collection**. 3. Carefully open ETM, use scoop mounted in lid to place approximately a walnut size amount of stool in to transport. Add enough stool to fill exactly to **red fill line.** Do not overfill. Click here for detailed collection instructions.
Storage/ Transport	Ambient temperature. Samples must be tested within 10 days of collection.
Results	*Salmonella* species — Isolated/Not Isolated *Shigella* species — Isolated/Not Isolated *Campylobacter* species — Isolated/Not Isolated *Escherichia coli* O157 — Isolated/Not Isolated Usual gram negative flora — Present/No Growth If *Salmonella* or *Shigella* are isolated, serotyping will be performed Example: *Shigella sonnei,* Serogroup D If additional organisms are requested: *Vibrio* species — Isolated/Not Isolated *Yersinia enterocolitica* — Isolated/Not Isolated *Aeromonas* species — Isolated/Not Isolated *Plesiomonas shigelloides* — Isolated/Not Isolated
Turnaround Time	2-5 days

Test	Enterovirus
Testing Lab	Alaska State Virology Laboratory - Fairbanks
Disease(s)	Acute hemorrhagic conjunctivitis, acute pharyngitis, tonsillitis, herpangina, aseptic meningitis, nonspecific febrile illness, hand-foot-and-mouth syndrome, polio, acute flaccid paralysis, respiratory disease, rash
Organism(s)	Coxsackie A & B, Echovirus and Enterovirus
Test Method	Viral Culture and Serum Neutralization
Availability	Enterovirus testing is available seasonally: June – November. **OR** upon special request. Please call the lab at 371-1000.
Specimen	Nasopharyngeal swab, throat swab, stool, vesicular fluid, biopsy tissue, cerebral spinal fluid (CSF).
Collection	•Swabs *(use synthetic material swabs only – cotton or calcium-alginate tips and wooden or metal shafts are not acceptable)*: Place swab(s) in UTM. • Stool or Tissue: transfer a "pea" sized amount to UTM. • Collect CSF in a sterile container.
Storage/ Transport	Store refrigerated. Ship with cool packs.
Results	Positive or No Virus Recovered Strain typing is performed if a virus is isolated.
Turnaround Time	2-4 weeks

Test	*Escherichia coli* O157
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Hemolytic Uremic Syndrome (HUS), bloody stool
Organism(s)	*Escherichia coli* O157:H7, *Escherichia coli* O157:NM
Test Method	Culture/Serotyping
Specimen	Pure culture isolates of suspected *E. coli* O157 Stool in ETM (see Enteric Stool Culture)
Storage/ Transport	Ambient temperature Package and label as Biological Substance, Category B.
Results	*Escherichia coli* O157:H7 *Escherichia coli* O157:NM No *Escherichia coli* isolated
Turnaround Time	2-5 days
Notes	Laboratories should send all suspected and/or confirmed isolates to ASPHL for confirmation and epidemiological studies.

Test	Ethanol
	See Toxic Alcohols and Glycols

Test	Ethylene Glycol
	See Toxic Alcohols and Glycols

Test	Fluorescent Treponemal Antibody (FTA-ABS)
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Syphilis
Organism(s)	*Treponema pallidum*
Test Method	Indirect Fluorescent Antibody Confirmatory Test – FTA-ABS
Specimen Collection	Serum Plasma and hemolyzed blood are NOT acceptable
Storage/ Transport	Store refrigerated for up to 7 days, freeze sample if testing will be delayed. Ship ambient temperature.
Results	FTA-ABS Reactive/Nonreactive
Turnaround Time	1-5 days, testing routinely performed on Wednesday. Previously positive patients are not retested.

Test	*Francisella tularensis*
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Tularemia, Rabbit fever, Deer-fly fever,
Organism(s)	*Francisella tularensis*
Availability	All clients upon consultation with Section of Epidemiology 907-269-8000 during business hours or 1-800-478-0084 during non-business hours. Contact the ASPHL prior to submitting samples 907-334-2100.
Specimen	Organism isolate, blood cultures, biopsy tissue, ulcer or lesion scraping or aspirate, lesion swab, sputum, bronchial/tracheal wash, serum for serological diagnosis, environmental samples
Specimen Collection	Refer to ASM Sentinel Level Clinical Microbiology Guidelines (http://www.asm.org/index.php/guidelines/sentinel-guidelines). Contact the ASPHL 907-334-2100.
Storage/ Transport	Store refrigerated. Ship with cool packs. Ambient temperature shipping is acceptable. Package and label as Biological Substance, Category B, ship as quickly as possible.
Results	Presumptive *F. tularensis* detected/not detected Confirmatory *F. tularensis* detected/not detected *Francisella tularensis* antibody (titer specified)
Turnaround Time	2-7 days

Test	*Giardia/Cryptosporidium* by DFA
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Giardiasis, Cryptosporidiosis
Organism(s)	*Giardia lamblia, Cryptosporidium parvum*
Test Method	Direct Fluorescent Antibody (DFA) stain
Specimen	Stool in 10% Formalin and PVA Fixative (O&P Collection Kit) See Ova & Parasite Exam
Storage/ Transport	Ambient temperature
Results	*Giardia lamblia* Positive/Negative *Cryptosporidium parvum* Positive/Negative
Turnaround Time	5 days

Test	*Haemophilus influenzae* Culture/Serotyping
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Bacterial Meningitis, Pneumonia, Otitis Media
Organism(s)	*Haemophilus influenzae*
Test Method	Culture, Identification, and Serotyping
Specimen	Pure isolate on chocolate agar slant
Storage/ Transport	Ship ambient temperature. Do not freeze.
Results	*Haemophilus influenzae* Isolated/Not Isolated Serotyping Group a, b or f Typing for uncommon serotypes referred to CDC.
Turnaround Time	1-3 days
Notes	Laboratories should send all suspected and/or confirmed isolates to ASPHL for confirmation and epidemiological studies. Samples from sterile sites (e.g. blood, CSF) can be sent directly to CDC Arctic Investigations (AIP) for PCR testing, contact information: 907-729-3200. Samples are shared between the two labs.

Test	Hepatitis (Viral)
Testing Lab	Alaska State Virology Laboratory - Fairbanks
Disease(s)	Serum hepatitis, epidemic hepatitis, non A, non B hepatitis
Organism(s)	Hepatitis A Virus, Hepatitis B Virus, Hepatitis C Virus
Specimen	Centrifuged serum in SST (serum separator tube without additives-tiger/marble top or yellow top); or centrifuged EDTA plasma (contact ASVL regarding acceptability of other anticoagulants)
Availability	Testing is available year round. Follow-up testing of hepatitis B carriers is recommended every 6 months.
Test Method	EIA Serology
Storage/ Transport	Store refrigerated or frozen; **indicate date shipped, and date frozen (if applicable) on requisition** Ship on frozen packs (preferred), or cold packs *Ambient temperature shipping is not optimal for testing*
Results	Hepatitis A Virus Antibody Reactive/Non-reactive/Borderline Hepatitis B Virus Antibody Reactive/Non-reactive/Borderline Hepatitis B Virus Surface Antigen Reactive/Non-reactive Hepatitis C Virus Antibody Reactive/Non-reactive Interpretation of Results
Turnaround Time	3-10 days

Test	Herpes Simplex Virus (HSV)
Testing Lab	Alaska State Virology Laboratory - Fairbanks
Disease(s)	Herpes, Human Herpes virus 1 and 2
Organism(s)	Herpes Simplex Virus Type 1, Herpes Simplex Virus Type 2
Test Method	Viral Culture with DFA confirmation (Preferred Method) EIA Serology – Typing by strain specific IgG
Specimen	**Viral Culture:** Vesicle fluid, ulcer swabs, ocular swabs. **Serology:** Serum
Collection	**Viral Culture Swab** *(use synthetic material swabs only – cotton or calcium-alginate tips and wooden or metal shafts are not acceptable)***:** Swab infected area and place swab(s) into UTM. **Serology:** Centrifuged serum in SST (serum separator tube without additives – tiger/marble top, or yellow top)
Storage/ Transport	Store serum or viral cultures refrigerated or frozen, and ship on frozen packs (preferred) or cold packs; **indicate date shipped, and date frozen (if applicable) on requisition.**
Results	Culture: Herpes Simplex Virus 1 Positive/No Virus Recovered Herpes Simplex Virus 2 Positive/No Virus Recovered Serology: HSV Type 1 /2 Antibody Reactive/Non-reactive/Equivocal Interpretation of Results
Turnaround Time	1-2 weeks for serology 2–7 days for culture

Test	HIV: Human Immunodeficiency Virus
Testing Lab	Alaska State Virology Laboratory - Fairbanks
Disease(s)	HIV, AIDS (Acquired Immunodeficiency Syndrome)
Organism(s)	Human Immunodeficiency Virus
Test Method	Screening: 4th Gen EIA (Detects: p24 Antigen, HIV 1&2 Antibody) *Confirmation: Multispot HIV 1,2 Differentiation Assay; run only if the 4th Gen EIA is reactive. Please Note: *Multispot specimens that produce inconclusive, or HIV-2 positive results will be referred to a CDC reference lab for further testing.
Specimen	Centrifuged serum in SST (serum separator tube without additives-tiger/marble top or yellow top); or centrifuged EDTA plasma (contact ASVL regarding acceptability of other anticoagulants)
Storage & Transport	Store refrigerated or frozen; **indicate date shipped and date frozen (if applicable) on requisition** Ship on frozen packs (preferred), or cold packs **Specimen must be received at ASVL within 7 days of collection if stored and shipped at 2-8 C. If a delay in shipping is anticipated, it is strongly recommended that separated serum or plasma, or centrifuged SST vacutainers be frozen at -20 C or lower prior to shipping (see note below).** Please Note: ASVL has evaluated the manufacturer's specimen 7 day maximum storage recommendation and has determined that specimens can be safely tested up to 14 days post collection if they are properly stored and transported. **However**, regulations require that a qualifier be added to results associated with HIV specimens received at ASVL between 8 & 14 days post collection. The required qualifier is as follows: *"This specimen was received after the manufacturer's maximum 7 day storage recommendation. Testing was performed; however, these results should be interpreted carefully with respect to clinical presentation and exposure risk. If current HIV infection or a potential recent exposure to HIV is suspected, please submit a new specimen in accordance with the defined submission guidelines."*
Results	**Screen Results** HIV Ag/Ab Combo — Reactive/Non-reactive ***Confirmatory Results** HIV-1 Antibody — Reactive/Non-reactive HIV-2 Antibody — Reactive/Non-reactive Interpretation of Results
Turnaround Time	Screening and confirmation: 1-3 days Reference lab testing (if needed): 1-2 weeks

Test	Human Metapneumovirus (hMPV)
	See Respiratory Virus Panel (RVP)

Test	Influenza Virus
	See Respiratory Virus Panel (RVP)

Test	Isopropanol
	See Toxic Alcohols and Glycols

Test	Lead (Blood)
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Test Method	Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)
Availability	All clients upon consultation with Section of Epidemiology 907-269-8000. Contact the ASPHL prior to submitting samples 907-334-2100.
Specimen	Whole blood
Specimen Collection	Use one 5 or 7 mL non-SST K_2-EDTA, Royal Blue or Tan top tube. A 5 or 7 mL lavender-top (EDTA) tube is also acceptable.
Storage / Transport	Store refrigerated. Ship with cool packs or ambient.
Results	A quantitative concentration will be reported.
Turnaround Time	1-2 days

Test	Mercury in Hair
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Test Method	Direct mercury analyzer
Availability	All clients as requested through Section of Epidemiology
Specimen	Hair
Specimen Collection	Sample collection kits are available from Section of Epidemiology 907-269-8000 during business hours or 1-800-478-0084 during non-business hours. Complete instructions and illustrations are available at http://www.epi.hss.state.ak.us/eh/hot0602/hairinfopacket.pdf
Storage / Transport	Place the labeled zip-lock bag in a standard envelope and mail to the ASPHL, to the attention of the Chemistry section. The sample is not a considered a biological substance and is not subject to dangerous goods shipping regulations.
Results	Quantitative mercury concentration
Turnaround Time	1 week

Test	Metals
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Agents	Inorganic chemical elements in urine: Berylium, Cobalt, Molybdenum, Cadmium, Antimony, Cesium, Barium, Tungsten, Platinum, Thallium, Lead, Uranium, Arsenic, Selenium
Test Method	Inorganic elements by Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)
Availability	Consult with the Section of Epidemiology 907-269-8000 during business hours or 1-800-478-0084 during non-business hours Contact the ASPHL prior to submitting samples 907-334-2100.
Specimen	Urine
Specimen Collection	2-10 mL urine in a screw-capped plastic container & lid. Please also submit an empty, labeled specimen container from the same lot to test for background contamination.
Storage / Transport	Refrigerate and store at 4°C or below for Anchorage area delivery. Outside of Anchorage area, freeze prior to shipment and ship with cold packs or dry ice to minimize spillage. Package and label as Biological Substance, Category B.
Results	A quantitative concentration will be reported for each detected element.
Turnaround Time	1–2 days

Test	Methanol
	See Toxic Alcohols and Glycols

Test	Mumps Virus
Testing Lab	Alaska State Virology Laboratory - Fairbanks
Disease(s)	Mumps, Orchitis
Organism(s)	Mumps Virus
Test Method	**Serology** (Mumps IgG Antibody) 1. This test is used to determine immune status. 2. The test is performed at ASVL by EIA. **PCR** (Mumps Virus Nucleic Acid) 1. This test is used to determine active infection. 2. Testing will be performed at a CDC contract lab.
Specimen	**Serology** • Centrifuged serum in SST (serum separator tubes – tiger top, marble top or yellow top without additives) **PCR** 1. Buccal swab in Universal Transport Media (UTM). 2. Throat swab in UTM. *(Swabs: use synthetic material swabs only – cotton or calcium-alginate tips and wooden or metal shafts are not acceptable)*
Storage/ Transport	**Serology** • Store refrigerated or frozen; indicate date frozen (if applicable) on requisition • Ship on frozen packs (preferred) or cold packs • *Ambient temperature shipping is not optimal for testing* **PCR** 1. Ship inoculated UTM to ASVL on cool packs (4ºC). 2. ASVL will overnight the sample to the CDC Contract Lab.
Results	**Serology** 1. *Negative:* No significant level of detectable antibody. Presumed to be susceptible to primary infection. 2. *Equivocal:* A borderline result. Result falls w/in ±10% of the positive threshold. Resubmission may be indicated. 3. *Positive:* Immunity by vaccination or infection. **PCR** 1. Not Detected • Mumps Virus nucleic acid was not detected. 2. Detected • Mumps Virus nucleic acid was detected.
Turnaround Time	**Serology**: 7-10 days **PCR:** 2 days from date of receipt at CDC Contract Lab.

Test	*Mycobacterium* Culture (TB)
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Tuberculosis, TB, Consumption
Organism(s)	*Mycobacterium tuberculosis* complex and other *Mycobacterium* species. For example: *M. avium-intracellulare* complex, *M. fortuitum, M. gordonae, etc*.
Test Method	Acid fast bacilli (AFB) smear, liquid (MGIT) and solid (7H11) culture, DNA probe confirmation, HPLC identification and drug susceptibility (TB only), TB PCR (NAAT). See TB PCR Testing Information Sheet for instructions on requesting testing.
Specimen	Sputum, bronchial wash, urine, stool, CSF, gastric lavage, blood, bone, bone marrow, tissue, body fluids and exudates.
Specimen Collection	**Sputum**: 5-10 mL in sterile 50 mL conical tube with 50 mg of sodium carbonate preservative. Collect first morning specimens on three consecutive days. **Bronchial wash**: ≥ 5 mL in sterile container **Body fluids**: ≥ 10-15 mL in sterile 50 mL conical tube. **Tissue**: In sterile container, add sterile saline to cover. Click here for Sputum collection instructions Click here for Tuberculosis/Mycobacterium culture detailed collection instructions
Storage/ Transport	Store refrigerated. Ship with cool packs. Ambient temperature shipping is acceptable. **Specimens must be received in Alaska State Public Health Laboratory – Anchorage within 10 days of collection.**
Results	**AFB Smear Result** AFB Smears not performed on blood, bone marrow, CSF, stool, or urine • No AFB observed • 1+, 2+, 3+, or 4+ AFB observed **TB PCR Results** See TB PCR Testing Information Sheet **TB Culture Result** • No *Mycobacterium* species, including *M. tuberculosis,* isolated. • *Mycobacterium tuberculosis* complex by DNA probe • *Mycobacterium avium/intracellulare* complex by DNA probe • Other *Mycobacterium* identified by HPLC **Susceptibilities** Performed on *M. tuberculosis* complex only. First line drugs: Streptomycin, Isoniazid, Rifampin, Ethambutol, PZA Susceptible/Resistant
Turnaround Time	**AFB smear** – 1 day **Preliminary results** – 3 weeks **Negative Culture** – 6 weeks (minimum) **Positive Culture** – As detected and confirmed **Susceptibilities** – 1-3 weeks from identification

Test	*Neisseria gonorrhoeae* Culture
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Gonorrhea, clap, GC
Organism(s)	*Neisseria gonorrhoeae*
Test Method	Culture, DNA Confirmation, Beta-lactamase susceptibility
Specimen	Throat or rectal swab
Specimen Collection	Specimens or isolates may be submitted on chocolate slants. Specimens may also be collected using the InTray System or similar. Follow manufacturer instructions for incubation prior to sending.
Storage/ Transport	Ambient temperature
Results	*Neisseria gonorrhoeae* Isolated/Not Isolated
Turnaround Time	1-3 days

Test	*Neisseria meningitidis* Culture/Serotyping
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Meningitis
Organism(s)	*Neisseria meningitidis*
Test Method	Culture/Serotyping
Specimen	Isolated organism
Storage/ Transport	Ambient temperature
Results	*Neisseria meningitidis* Isolated/Not Isolated Serotyping Group A, B, C, Y, NON-TYPING Typing for uncommon serotypes referred to CDC.
Turnaround Time	2-4 days
Notes	Laboratories should send all suspected and/or confirmed isolates to ASPHL for confirmation and epidemiological studies. Samples from sterile sites (e.g. blood, CSF) can be sent directly to CDC Arctic Investigations for PCR testing, contact information: 907-729-3200. Samples are shared between the two labs.

Test	Norovirus
Testing Lab	Alaska State Virology Laboratory - Fairbanks
Disease(s)	Noro, Norovirus, Norwalk-like disease, epidemic viral gastroenteropathy
Organism(s)	Norovirus, Norwalk-like Viruses
Test Method	PCR
Availability	Testing will only be completed for outbreak situations. Contact Section of Epidemiology 907-269-8000 during business hours or 1-800-478-0084 during non-business hours.
Specimen	Collect at least 5 ml of raw stool, vomit, or emesis in sterile container. (Specimens must NOT be submitted in UTM). Click here for Norovirus Detailed Collection Instructions
Storage/ Transport	Store refrigerated. Ship with cool packs.
Results	Norovirus Positive (Genogroup I or II) / Negative
Turnaround Time	2–7 days

Test	Orthopox Viruses
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Pustular or vesicular rash illness
Organism(s)	Variola, Vaccinia (cow pox), orthopox viruses (monkeypox, camelpox, ectromelia, and gerbilpox).
Availability	All clients upon consultation with Section of Epidemiology 907-269-8000 during business hours or 1-800-478-0084 during non-business hours. Contact the ASPHL prior to submitting samples 907-334-2100.
Specimen	**Do NOT collect any specimens.** Contact Section of Epidemiology immediately for consultation prior to specimen collection. Microscope slide touch preps, scabs, dried vesicular fluid, vesicular swabs, environmental samples.
Storage/ Transport	Store refrigerated. Ship with cool packs. Ambient temperature shipping is acceptable. Package and label as Biological Substance, Category B, ship as quickly as possible.
Results	Orthopox virus DNA Detected/Not Detected Variola virus DNA Detected/Not Detected Non-variola virus DNA Detected/Not Detected
Turnaround Time	2 days

Test	Ova & Parasite Exam
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Giardiasis (beaver fever), Amebiasis, Intestinal Parasites Rare/unusual parasites (Trichinosis, Leishmaniasis) are referred to a reference laboratory; please contact ASPHL or Epidemiology for more information.
Organism(s)	*Giardia lamblia, Entamoeba histolytica*, *Ascaris* spp., protozoans, worms, tapeworms, and flukes **Trichinella* spp., *Leishmania* spp. by referral.*
Test Method	Formalin ethyl-acetate concentration wet mount and Zinc-PVA Trichrome Stain
Special Conditions	• Multiple samples must be collected 24-48 hours apart. • Specimen should not be contaminated with water, urine, barium, antibiotics or mineral oil. • Contrast media interferes with testing, delay collection until one week after procedure
Specimen Collection	**Stool:** Collect stool in clean, dry container. Add stool (walnut size formed stool or ≈5 mL of liquid) to **10% Formalin** vial (yellow top) <u>and</u> **Zn PVA** vial (blue top) preservative **to red fill line only**. <u>Do not overfill.</u> **Worms:** Place worm in 10% Formalin (yellow top) vial or leak-proof container with normal saline to cover. Please provide travel history if known.
Storage/ Transport	Ambient temperature
Results	No parasites observed Parasite observed and identified (genus and species) Example: *Giardia lamblia* cysts
Turnaround Time	3-5 working days from date of receipt in laboratory

Test	Parainfluenza Virus
	See Respiratory Virus Panel (RVP)

Test	Pertussis PCR
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Whooping cough
Organism(s)	*Bordetella pertussis* and *Bordetella parapertussis*
Test Method	Polymerase Chain Reaction (PCR)
Specimen Collection	**PCR**: NP swab (COPAN) in sterile dry tube. Click here for Pertussis PCR-Detailed Collection Instructions
Storage / Transport	• Ship specimen immediately at ambient temperature. • Refrigerate PCR swab, if possible, until shipped.
Results	**PCR** *B. pertussis* DNA Detected/Not Detected *B. parapertussis* DNA Detected/Not Detected
Turnaround Time	PCR: 1-4 days (Testing performed on Tuesday and Thursday)

Test	Pulsed-Field Gel Electrophoresis (PFGE)
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Foodborne, diarrhea, nosocomial infections
Organism(s)	*Escherichia coli* O157:H7, *Salmonella* species, *Shigella* species, *Campylobacter* species, *Vibrio* species, *Listeria* species and all Shigatoxin producing *Escherichia coli* (STEC)
Test Method	Pulsed-Field Gel Electrophoresis (PFGE) - DNA fingerprinting of bacteria
Specimen	Pure culture isolates
Special Conditions	Used for epidemiological investigation and surveillance of disease outbreaks.
Storage / Transport	Ambient temperature
Results	For epidemiological investigation purposes only; not to be used for diagnostic purposes. Results are reported to Epidemiology. Alaska and CDC restriction enzyme pattern numbers are assigned and compared to a local and national database network, PulseNet (http://www.cdc.gov/pulsenet/).
Turnaround Time	3-5 days

Test	Pinworm Exam
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Pinworm
Organism(s)	*Enterobius vermicularis*
Test Method	Microscopic Examination
Specimen Collection	Using pinworm paddle with adhesive side outward, press paddle firmly several times against the right and left perianal folds. Return paddle to transport vial, secure cap and label.
Storage/ Transport	Ambient temperature
Results	Pinworm (*Enter. vermicularis*) Observed/Not Observed
Turnaround Time	1-2 days

Test	*Plesiomonas shigelloides*
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Bacterial gastroenteritis
Organism(s)	*Plesiomonas shigelloides*
Test Method	Culture
Specimen	Stool in ETM (see Enteric Stool Culture)
Special Conditions	Specimen should not be contaminated with water, urine, barium, antibiotics or mineral oil.
Specimen Collection	1. Collect stool in clean dry container or on plastic wrap stretched across toilet. 2. **Sample must be placed into ETM within one hour of sample collection**. 3. Carefully open ETM, use scoop mounted in lid to place approximately a walnut size amount of stool in to transport. Add enough stool to fill exactly to **red fill line.** Do not overfill.
Storage/ Transport	Ambient temperature
Results	*Plesiomonas shigelloides* Isolated/Not Isolated
Turnaround Time	2-7 days

Test	Rabies
Testing Lab	Alaska State Virology Laboratory - Fairbanks
Disease(s)	Rabies, Acute Viral Encephalomyelitis
Organism(s)	Rabies Virus
Test Method	Direct Fluorescence Assay (DFA)
Availability	All testing must be approved by the Section of Epidemiology 907-269-8000 during business hours and 1-800-478-0084 during non-business hours. Testing for human rabies is available from CDC with approval from Section of Epidemiology.
Specimen Collection & Shipping	See: Rabies Request Form (http://dhss.alaska.gov/dph/Labs/Documents/publications/Rabies_Inv_Report.pdf) See: Rabies Specimen Collection & Shipping Instructions See: Rabies Shipping Label (http://dhss.alaska.gov/dph/Labs/Documents/publications/Rabies_label.pdf)
Results	Rabies Virus Positive/Negative
Turnaround Time	1-4 days

Test	Reference Bacterial Culture
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Test Method	Culture and identification
Special Conditions	If referring potential bioterrorism agent specimen for testing, please contact the Alaska State Public Health Laboratory – Anchorage.
Specimen	Isolated organism
Storage / Transport	Ambient temperature Package and label as Biological Substance, Category B.
Results	Organism identified (genus and species)
Turnaround Time	7-10 days

Test	# Respiratory Viral Panel (RVP)
Testing Lab	Alaska State Virology Laboratory - Fairbanks
Test Method	GenMark e-Sensor Multiplex PCR

Viral Targets	**Associated Disease**
1. Influenza A/H1	Influenza **Note:** Testing for Novel strains of Influenza (Flu A/H5N1, Flu A/H7N9 etc.) must be approved by the Section of Epidemiology. Business Hours: 907-269-8000; After Hours: 1-800-478-0084
2. Influenza A/'09 H1N1	
3. Influenza A/H3	
4. Influenza B	
5. RSV A (Can be more serious)	Bronchiolitis & Pulmonary Inflammation
6. RSV B (Often less severe)	
7. Human Metapneumovirus (hMPV)	Lower Respiratory Disease
8. Rhinovirus (>100 subtypes)	The Common Cold
9. Adenovirus group B/E *(B subtypes:* 3, 7, 11, 14, 16, 21, 34, 35, 50, 55) *(E subtype: 4)*	Severe Respiratory Disease *(Adenovirus groups B & E are indistinguishable by this test)*
10. Adenovirus group C *(C subtypes* 1, 2, 5, 6, 57*)*	Respiratory Disease *(Usually less severe than Adenovirus groups B/E)*
11-14. Parainfluenza types: 1, 2, 3, 4	Upper & Lower Respiratory Disease
15-19. Human Coronavirus's (HCoV) HKU1, 229E, NL63, OC43	Mild – Moderate Respiratory Disease

Specimen	**Preferred specimen: Nasopharyngeal (NP)** Acceptable specimens: Nasopharyngeal Swab(NP) Tracheal Aspirate (TA) Dual (NP/TS) Nasal Swab (NS) Nasal Aspirate (NA) Nasal Wash (NW) Broncheoalveolar Lavage (BL) Lung Tissue (LT) Bronchial Wash (BW) ***Swabs: use synthetic material swabs only – cotton or calcium-alginate tips and wooden or metal shafts are not acceptable*
Collection	**Collection materials are available upon request; instructions below:** • Swab: place swab into UTM and break swab **below** lid line • Wash or lavage: aseptically transfer no more than 3 ml to UTM • Lung tissue: transfer a pea sized piece (about 1 gram) into UTM • Be sure the cap is twisted down completely. • Place UTM inside the biohazard bag; put Lab Request in outer pocket
Storage & Transport	• Store the specimens in your refrigerator until ready to ship • Pack samples on cool packs to preserve viral integrity • Ship as a Biological Substance Category B UN3373 • If you are in an outlying area: ✓ Use the pre-addressed **Priority** Mail Labels provided ✓ Mail Monday or Tuesday to avoid weekends at the Post Office
Result (for each viral target)	**Not Detected:** Viral nucleic acid was not detected. **Positive:** Viral nucleic acid was detected.
Turnaround Time (TAT)	1-3 days after receipt at ASVL

Test	Rhinovirus
	See Respiratory Viral Panel (RVP)

Test	Ricin
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Ricin poisoning
Agent	Toxin from *Ricinus communis* (castor bean plant)
Availability	Consult with the Section of Epidemiology 907-269-8000 during business hours or 1-800-478-0084 during non-business hours. Contact the ASPHL prior to submitting samples 907-334-2100.
Specimen	Environmental samples
Storage/ Transport	Store refrigerated. Ship with cool packs. Ambient temperature shipping is acceptable. Package and label as Biological Substance, Category B.
Results	Ricin Toxin Not Detected/Detected *Ricin communis* DNA Not Detected/Detected
Turnaround Time	2-4 days

Test	Ricinine
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Agents	Ricinine marker for ricin toxin
Test Method	Liquid Chromatography/Tandem Mass Spectrometry
Availability	Contact the Alaska State Public Health Laboratory – Anchorage prior to submitting specimens 907-334-2100 during business hours or after hours on-call pager (855)222-0951.
Specimen	Urine
Collection	Submit urine in sterile 50 mL conical tube.
Transport	Store refrigerated. Ship with cool packs.
Results	A quantitative concentration will be reported.

Test	Respiratory Syncytial Virus (RSV)
	See Respiratory Viral Panel (RVP)

Test	RPR (Rapid Plasma Reagin)
	See Syphillis screen

Test	Rubella
Testing Lab	Alaska State Virology Laboratory - Fairbanks
Disease(s)	Rubella, German measles, Congenital Rubella Syndrome.
Organism(s)	Rubella Virus
Test Method	**Serology** (Rubella IgG Antibody) 1. This test is used to determine immune status. 2. The test is performed at ASVL by EIA. **PCR** (Rubella Virus Nucleic Acid) 1. This test is used to determine active infection. 2. Testing will be performed at a CDC contract lab.
Specimen	**Serology** • Centrifuged serum in SST (serum separator tubes – tiger top, marble top or yellow top without additives) **PCR** 1. Throat Swab (TS) 2. Nasopharyngeal Swab (NP) *(Swabs: use synthetic material swabs only – cotton or calcium-alginate tips and wooden or metal shafts are not acceptable)*
Storage/ Transport	**Serology** • Store refrigerated or frozen; indicate date frozen (if applicable) on requisition • Ship on frozen packs (preferred) or cold packs • *Ambient temperature shipping is not optimal for testing* **PCR** 1. Ship inoculated UTM to ASVL on cool packs (4ºC). 2. ASVL will overnight the sample to the CDC Contract Lab.
Results	**Serology** 1. *Negative:* No significant level of detectable antibody. Presumed to be susceptible to primary infection. 2. *Equivocal*: A borderline result. Result falls w/in ±10% of the positive threshold. Resubmission may be indicated. 3. *Positive:* Indicates immunity by vaccination or infection. **PCR** 1. Not Detected • Rubella Virus nucleic acid was not detected. 2. Detected • Rubella Virus nucleic acid was detected.
Turnaround Time	**Serology**: 7-10 days **PCR:** 2 days from date of receipt at CDC Contract Lab.

Test	# Rubeola (Measles)
Testing Lab	Alaska State Virology Laboratory - Fairbanks
Disease(s)	Measles, Rubeola
Organism(s)	Rubeola Virus
Test Method	**Serology** (Rubeola IgG Antibody) 1. This test is used to determine immune status. 2. The test is performed at ASVL by EIA. **PCR** (Rubeola Virus Nucleic Acid) 1. This test is used to determine active infection. 2. Testing will be performed at a CDC contract lab.
Specimen	**Serology** • Centrifuged serum in SST (serum separator tube – tiger top, marble top or yellow top without additives) **PCR** 1. Nasopharyngeal Swab (NP) - preferred 2. Throat Swab (TS) *(Swabs: use synthetic material swabs only – cotton or calcium-alginate tips and wooden or metal shafts are <u>not</u> acceptable)* 3. Urine: 20-100mL in clean/sterile leak-proof container (not in UTM)
Storage/ Transport	**Serology** • Store refrigerated or frozen; indicate date frozen (if applicable) on requisition • Ship on frozen packs (preferred) or cold packs • *Ambient temperature shipping is not optimal for testing* **PCR** 1. Ship inoculated UTM to ASVL on cool packs (4ºC). 2. ASVL will overnight the sample to the CDC Contract Lab.
Results	**Serology** 1. *Negative*: No significant level of detectable antibody. Presumed to be susceptible to primary infection. 2. *Equivocal:* A borderline result. Result falls w/in ±10% of the positive threshold. Resubmission may be indicated. 3. *Positive:* Indicates immunity by vaccination or infection. **PCR** 1. Not Detected • Rubeola Virus nucleic acid was not detected. 2. Detected • Rubeola Virus nucleic acid was detected.
Turnaround Time	**Serology**: 7-10 days **PCR:** 2 days from date of receipt at CDC Contract Lab.

Test	*Salmonella* Serotyping
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Salmonellosis
Organism(s)	*Salmonella* species
Test Method	Culture and Serotyping
Specimen	Pure culture isolate Stool in ETM (see Enteric Stool Culture)
Storage / Transport	Ambient temperature Package and label as Biological Substance, Category B
Results	*Salmonella* serotype Example: *Salmonella* sero. Enteritidis
Turnaround Time	2-7 days
Notes	Laboratories should send all suspected and/or confirmed isolates to ASPHL for confirmation and epidemiological studies.

Test	Shiga-toxin testing (STEC)
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Hemolytic Uremic Syndrome (HUS), bloody stool
Organism(s)	Shiga-toxin (I,II) producing *Escherichia coli* (STEC), *E. coli* O157, Enterohemorragic *E. coli* (EHEC)
Test Method	EIA (Meridian EHEC)
Specimen	Stool in ETM (see Enteric Stool Culture) GN Broth (Gram negative/MacConkey's broth)
Storage / Transport	Ambient temperature
Results	Shigatoxin (I,II) Positive/Negative
Turnaround Time	5 days
Notes	Laboratories should send all suspected and/or confirmed isolates to ASPHL for confirmation and epidemiological studies. Refer to Epidemiology Bulletin: Characteristics of Shiga-Toxin Producing Escherichia coli (STEC) Isolates — Alaska, June 2007 to December 2008 (http://www.epi.hss.state.ak.us/bulletins/docs/b2009_08.pdf)

Test	*Shigella* Serotyping
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Shigellosis
Organism(s)	*Shigella dysenteriae*, Serogroup A *Shigella flexneri,* Serogroup B *Shigella boydii*, Serogroup C *Shigella sonnei,* Serogroup D
Test Method	Culture and Serotyping
Specimen	Pure culture isolate Stool in ETM (see Enteric Stool Culture)
Storage / Transport	Ambient temperature Package and label as Biological Substance, Category B* *Exception: Confirmed isolates of *Shigella dysenteriae,* Serogroup A must be shipped as Biological Substance Category A.
Results	No *Shigella* species isolated *Shigella dysenteriae*, Serogroup A *Shigella flexneri,* Serogroup B *Shigella boydii*, Serogroup C *Shigella sonnei,* Serogroup D
Turnaround	2-4 days
Notes	Laboratories should send all suspected and/or confirmed isolates to ASPHL for confirmation and epidemiological studies.

Test	Strep Screen (Group A)
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Strep Throat, pharyngitis
Organism(s)	*Streptococcus pyogenes* (Grp A)
Test Method	Culture and Serotyping
Specimen Collection	Throat swab in Amies Transport
Storage / Transport	Ambient temperature
Results	*Streptococcus pyogenes* (Grp A) Isolated/Not Isolated
Turnaround Time	2-4 days

Test	Streptococcus Isolates (Invasive Disease)
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Various
Organism(s)	*S. pyogenes*, *S. agalactiae*, *S. pneumoniae*
Test Method	Culture/Serotyping
Specimen	Isolated organism
Storage/ Transport	Ambient temperature
Results	*S. pyogenes* Isolated/Not Isolated *S. agalactiae* Isolated/Not Isolated *S. pneumoniae* Isolated/Not Isolated Typing for uncommon serotypes referred to CDC.
Turnaround Time	2-4 days
Notes	Laboratories should send all suspected and/or confirmed isolates from sterile sites (e.g. blood, CSF) to ASPHL for confirmation and epidemiological studies. Samples may be sent directly to CDC Arctic Investigations for testing. Contact information: 907-729-3200. Samples are shared between the two labs.

Test	Syphilis Screen – Rapid Plasma Reagin (RPR)
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Syphilis, Neuro-syphilis
Organism(s)	*Treponema pallidum*
Test Method	Charcoal agglutination
Specimen	Serum 2–5 ml
Storage/ Transport	Store refrigerated. Freeze sample if delay in testing is anticipated. Ship ambient temperature. FTA confirmatory testing requires samples to be frozen within 7 days of collection, a new sample may be required for reactive samples if storage conditions are not met.
Results	RPR: Reactive (with Dilutions)/Nonreactive FTA-ABS automatically performed on Reactive RPRs
Turnaround Time	1-2 days

Test	Toxic Alcohols & Glycols
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Compounds (Alternate Names)	acetone, isopropanol (2-propanol, isopropyl alcohol, rubbing alcohol), methanol (methyl alcohol, wood alcohol), ethanol (ethyl alcohol), ethylene glycol (1,2-ethane diol, antifreeze)
Test Method	Gas Chromatography/Mass Spectrometry. This is a two-step panel. Simple alcohols are completed first, followed by a separate glycol analysis. All compounds are tested during initial case evaluation. If follow-up testing is requested, only compounds previously reported positive are tested.
Availability of Testing	Test is performed to support hospital emergency department determinations of Toxic Alcohol/Ethylene Glycol exposure. This test is not for routine evaluation of ethanol or acetone. Testing is available 24/7 by calling the emergency on-call #: 907-222-0951 or 855-222-0951. Follow prompts to be connected to on-call chemistry staff.
Specimen	Whole Blood
Specimen Collection	Preferred Volume: 4 mL Whole Blood. Minimum volume: 2 mL Whole Blood. Preferred Tube: One 4 mL Gray top w/anticoagulant (Potassium Oxalate/Sodium Fluoride or Na2EDTA/Sodium Fluoride) Alternate Tube: Lavender (K2EDTA) Serum Separator Tubes are not acceptable.
Storage/ Transport	Store refrigerated. Anchorage Area (including Mat-Su): Ship at ambient temperature. Outside Anchorage: Ship on cold pack if transport will take longer than 12 hrs. Contact on-call staff with Airbill number and carrier.
Results	A quantitative concentration will be reported. Critical values are provided with report. Results are called in and faxed. The Alaska Poison Control Center is notified of positive results and is able to provide follow-up toxicology assistance.
Turnaround Time	Test panel is complete 2-3 hours from receipt of sample.

Test	*Trichomonas* (NAAT)
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Trichomonas, Trichomoniasis
Organism(s)	*Trichomonas vaginalis* (TV)
Test Method	Nucleic Acid Amplification (NAAT). Target Mediated Amplification (TMA) for the detection of ribosomal RNA (rRNA) from *Trichomonas vaginalis*.
Availability	**For females only** Please contact ASPHL at 907-344-2100 to set up an account for testing. There is a $25 fee per specimen for testing.
Specimen	Urine Vaginal Endocervical
Specimen Collection	Gen-Probe APTIMA Combo2 Transport Tubes: Urine Collection Kit (yellow kit): • First catch urine must be added to transport within 24 hours of collection. Vaginal Swab Collection Kit (orange kit): • Follow instruction provided in kit Unisex Swab Collection Kit (white kit): • Used for Endocervical specimens • Add swabs to transport immediately. • Do not submit white shafted cleaning swabs for testing.
Special Conditions	**Not a test of cure.** Tests that are performed less than 4-6 weeks after completion of therapy might be falsely positive due to the presence of nonviable organisms.
Storage/ Transport	Ambient temperature Urine specimens must be tested within 30 days of collection, swab specimens within 60 days.
Results	*Trichomonas vaginalis* Positive/Negative
Turnaround Time	7 days

Test	# Varicella Zoster
Testing Lab	Alaska State Virology Laboratory - Fairbanks
Disease(s)	Chickenpox, Herpes Zoster, Varicella, Shingles
Organism(s)	Varicella-Zoster Virus (VZV)
Test Method	**Serology** (VZV IgG Antibody) 1. This test is used to determine immune status. 2. The test is performed at ASVL by EIA. **PCR** (VZV Nucleic Acid) 1. This test is used to determine active infection. 2. Testing will be performed at a CDC contract lab.
Specimen	**Serology** • Centrifuged serum in SST (serum separator tubes - tiger top, marble top or yellow top with no additives) **PCR** 1. Scabs and/or 2. Vesicular lesion swabs in a dry, sterile container. **PLEASE NOTE**: *Do not place scabs or swabs for VZV into UTM. They should be kept dry, in a clean container. Skin lesion swab should be placed in a separate container from the scab.* *(Swabs: use synthetic material swabs only – cotton or calcium-alginate tips and wooden or metal shafts are <u>not</u> acceptable)*
Storage/ Transport	**Serology** • Store refrigerated or frozen; indicate date frozen (if applicable) on requisition • Ship on frozen packs (preferred) or cold packs • *Ambient temperature shipping is not optimal for testing.* **PCR** 1. Ship specimens to ASVL at ambient temperature. 2. ASVL will overnight the sample to the CDC Contract Lab.
Results	**Serology** 1. *Negative:* No significant level of detectable antibody. Presumed to be susceptible to primary infection. 2. *Equivocal:* A borderline result. Result falls w/in ±10% of the positive threshold. Resubmission may be indicated. 3. *Positive:* Indicates immunity by vaccination or infection. **PCR** 1. Not Detected • VZV nucleic acid was not detected. 2. Detected • VZV nucleic acid was detected.
Turnaround Time	**Serology**: 7-10 days **PCR:** 2 days from date of receipt at CDC Contract Lab.

Test	*Vibrio* species
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Rice water diarrhea, gastroenteritis
Organism(s)	*Vibrio cholerae, V. parahemolyticus, V. fluvialis, V. furnissii, V. mimicus, V. hollisae*
Test Method	Culture and Serotyping
Specimen	Stool in ETM (see Enteric Stool Culture)
Special Conditions	Specimen should not be contaminated with water, urine, barium, antibiotics or mineral oil.
Specimen Collection	1. Collect stool in clean dry container or on plastic wrap stretched across toilet. 2. **Sample must be placed into ETM within one hour of sample collection**. 3. Carefully open ETM, use scoop mounted in lid to place approximately a walnut size amount of stool in to transport. Add enough stool to fill exactly to **red fill line.** Do not overfill.
Storage/ Transport	Ambient temperature Package and label as Biological Substance, Category B
Results	Not isolated Vibrio species: *Vibrio cholerae, V. parahemolyticus, V. fluvialis, V. furnissii, V. mimicus, V. hollisae*
Turnaround Time	2-7 days
Notes	Laboratories should send all suspected and/or confirmed isolates to ASPHL for confirmation and epidemiological studies.

Test	*Yersinia enterocolitica*
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Gastroenteritis
Organism(s)	*Yersinia enterocolitica*
Test Method	Culture
Specimen	Stool in ETM (see Enteric Stool Culture)
Special Conditions	Specimen should not be contaminated with water, urine, barium, antibiotics or mineral oil.
Specimen Collection	1. Collect stool in clean dry container or on plastic wrap stretched across toilet. 2. **Sample must be placed into ETM within one hour of sample collection**. 3. Carefully open ETM, use scoop mounted in lid to place a walnut size amount of stool in to transport. Add enough stool to fill exactly to **red fill line.** Do NOT overfill.
Storage/ Transport	Ambient temperature Package and label as Biological Substance, Category B
Results	*Yersinia enterocolitica* Isolated/Not Isolated
Turnaround Time	2-7 days
Notes	Laboratories should send all suspected and/or confirmed isolates to ASPHL for confirmation and epidemiological studies.

Test	*Yersinia pestis*
Testing Lab	Alaska State Public Health Laboratory - Anchorage
Disease(s)	Plague; disease forms: Bubonic, pneumonic, or septicemic.
Organism(s)	*Yersinia pestis*
Availability	Consultation with the Section of Epidemiology 907-269-8000 during business hours or 1-800-478-0084 after hours. Contact the ASPHL prior to submitting samples 907-334-2100.
Specimen	Organism isolate, bronchial wash, tracheal aspirate, sputum, nasopharyngeal swab, lymph node aspirate, serum, lesion exudates, tissue smears, blood, environmental samples
Specimen Collection	Refer to ASM Sentinel Level Clinical Microbiology Guidelines (http://www.asm.org/index.php/guidelines/sentinel-guidelines). Contact the ASPHL with questions: 334-2100
Storage/ Transport	Store refrigerated. Ship with cool packs. Ambient temperature shipping is acceptable. Package and label as Biological Substance, Category B, ship as quickly as possible.
Results	Presumptive/ Confirmatory *Y. pestis* detected/ not detected
Turnaround Time	3-5 days

Botulism Detailed Collection Instructions

Botulism testing at ASPHL is for confirmation of the presence of botulinum neurotoxin or toxin-producing Clostridia. If botulism is suspected, contact the Section of Epidemiology (907-269-8000) immediately for consultation on patient treatment.

Botulinum neurotoxin is detected in the laboratory in clinical specimens or suspect food samples. Specimens from patients treated with the heptavalent botulinum antitoxin (HBAT) will be tested.

Specimens for Botulism testing include;

Pre-antitoxin serum 10 mL Minimum
It is critical that 20 mL of blood be drawn prior to the administration of HBAT. The time the HBAT is given is required on the Anchorage Lab Request form. Be certain the actual time of blood draw appears on the tubes and Anchorage Lab Request form.

Stool 10 g Minimum
Please collect stool as soon as possible. Package without transport media. Ten grams is about the size of a walnut.

Gastric Contents 20 mL Minimum
Please collect gastric contents in sterile leak-proof container.

Food 10 mL oil or 10 g of solid material Minimum
Leave food in original containers if possible. Package in sterile leak-proof containers.

All samples must be:

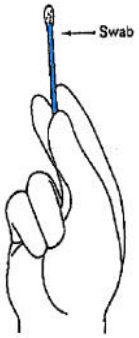
- Clearly labeled
- Placed in a leak-proof container
- Sealed with parafilm (please use duct tape for sealing oil samples)
- Placed in a sealable plastic bag with absorbent material
- Placed in second sealable plastic bag with completed Anchorage Lab Request form
- Package as Biological Substance Category B specimen according to all current shipping regulations
- Ship independently of other specimens for testing

Send Botulism samples to:

SPECIAL PATHOGENS
Alaska State Public Health Laboratory
5455 Dr. Martin Luther King Jr. Ave.
Anchorage, AK 99507

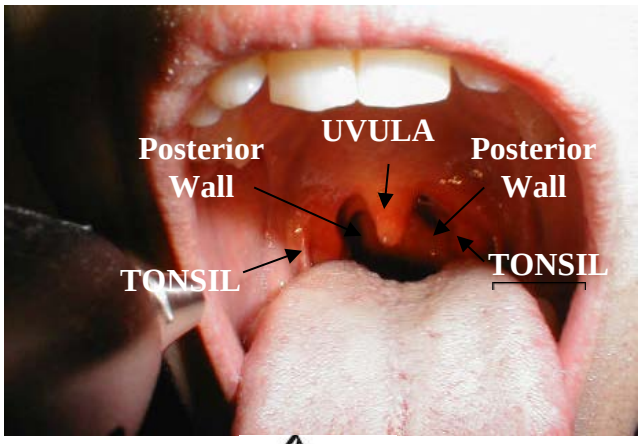
Call ASPHL at 907-334-2100 before shipping

Chlamydia & Gonorrhea Pharyngeal Swab Collection Instructions



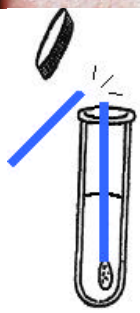
STEP 1

Open UNISEX kit (white) and remove tube and package with green writing. Remove the swab with the **BLUE** shaft. **USE BLUE SHAFT SWAB ONLY**.



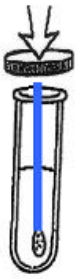
STEP 2

Instruct patient to open mouth widely. Be sure to make good contact with 5 key areas of the throat.



STEP 3

Remove cap from test tube. Place swab in test tube. Do not puncture the foil cap. Break swab shaft at the score mark.



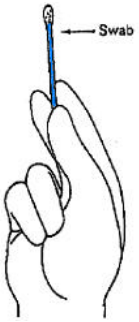
STEP 4

Put the cap back tightly on test tube to prevent any leaking. Try not to splash the liquid out of the tube

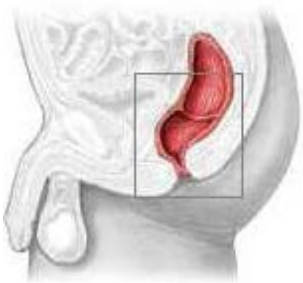
STEP 5

Discard wrapper and unused tube. Label tube with patient's name and specimen source.

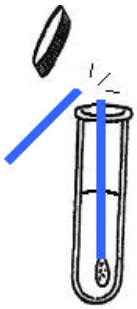
Chlamydia & Gonorrhea Rectal Swab Collection Instructions



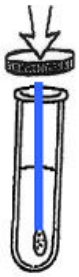
STEP 1
Open UNISEX kit (white) and remove tube and package with green writing. Remove the swab with the **BLUE** shaft. **USE BLUE SHAFT SWAB ONLY**.



STEP 2
Insert swab 1 inch into the anus and turn for 5-10 seconds. If needed, before inserting swab, wet swab with water or saline solution.



STEP 3
Remove cap from test tube. Place swab in test tube. Do not puncture the foil cap. Break swab shaft at the score mark.



STEP 4
Put the cap back tightly on test tube to prevent any leaking. Try not to splash the liquid out of the tube

STEP 5
Discard wrapper and unused tube. Label tube with patient's name and specimen source.

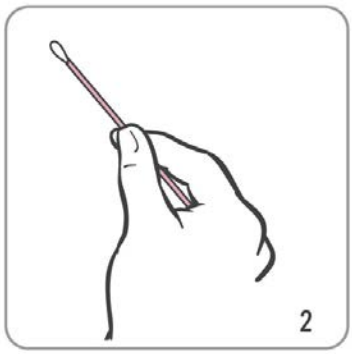
Chlamydia & Gonorrhea Vaginal Swab Collection Instructions (for patients)

Note: If you have any questions about this procedure, please ask your care-provider.

1. Wash your hands before starting.
2. Read these instructions carefully.
3. Open the kit package (orange) and set the tube in the cup or rack provided before beginning.
4. It is very important that the fluid in the tube does not spill. If it does spill, please ask for a new tube.

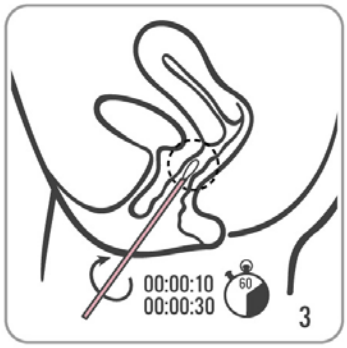
❶

Partially peel open and remove the swab.



❷

Hold the swab as shown, placing your thumb and forefinger in the middle of the swab shaft.



❸

Carefully insert the swab into your vagina about 2 inches inside the opening of the vagina and gently rotate the swab for 10 to 30 seconds. Make sure the swab touches the walls of the vagina so that moisture is absorbed by the swab.

❹

Withdraw the swab without touching the skin.
Unscrew the cap from the tube.
Do not spill the contents of the tube.
Do not touch the soft tip.

❺

Immediately place the swab into the transport tube so that the tip of the swab is visible below the tube label.

❻

Carefully break the swab shaft at the score line against the side of the tube.

❼

Discard the top portion of the swab.

❽

Tightly screw the cap onto the tube. Return the tube as instructed by your care-provider.

Interpretation of Hepatitis Results

Serological Pattern of Reactivity

NOTE: A **BORDERLINE** result on any assay indicates marginal detection. This specimen falls within ± 10% of the positive threshold. A follow up specimen may be resubmitted in 2-3 weeks.

HEPATITIS A

HAV Total Ab	HAV IgM	Interpretation
Non-reactive		No immunity
Reactive	Non-Reactive	Immunity via HAV exposure or immunization
Reactive	Reactive	Acute HAV infection or recent immunization

HEPATITIS B

HBcAb	HBsAb	HBsAg	HBcIgM	Interpretation
Non-Reactive				No prior HBV infection
Non-reactive	Non-reactive			No immunity
Non-reactive	Reactive			Immune via vaccination titre >10mIU/mL
Reactive	Reactive	Non-reactive		Immune via prior resolved infection
Reactive	Non-reactive	Non-reactive		Convalescent window, or loss of HBsAb from resolved infection, or possible low grade chronic* infection
Non-reactive	Non-reactive	Reactive		Early infection
Reactive	Non-reactive	Reactive	Reactive	Acute HBV infection
Reactive	Non-reactive	Reactive	Non-reactive	Chronic* HBV infection
Reactive	Reactive	Reactive	React/Non-react	Resolving Infection

*HBV infection is considered to be chronic when HBsAg remains Reactive for 6(six) months **or longer.**

HEPATITIS C

HCV Ab	Interpretation
Non-reactive	HCV infection not indicated. If recent infection is suspected, retest in 6-7 weeks
Reactive	HCV Infection Indicated

v 12/03/13

Herpes Type 1 and Type 2 IgG Antibody

Supplemental Information

HSV-1 Result	HSV-2 Result	Interpretation
Non-reactive	Non-reactive	No IgG antibodies to HSV were detected
Reactive	Non-reactive	Presumptive for IgG antibodies to HSV-1
Non-reactive	Reactive	Presumptive for IgG antibodies to HSV-2
Reactive	Reactive	Presumptive for IgG antibodies to HSV-1 and HSV-2
Equivocal	Non-reactive	Borderline result (falls within ± 10% of positive threshold). A follow-up specimen may be resubmitted in 4-12 weeks
Equivocal	Equivocal	
Non-reactive	Equivocal	

Result Notes:

1. This test is indicated for sexually active adults or expectant mothers to aid in the presumptive diagnosis of HSV infection.

2. Performance of this EIA assay has not been established for use in pediatric populations, for neonatal screening, or for testing immunocompromised patients.

3. This test is not intended to replace viral isolation and should not be used as the sole basis for diagnosing infection. Reactive results are presumptive, and should be confirmed by another method.

4. This test does not indicate the site of infection. A single reactive result only indicates previous exposure, may not be used to determine active infection or disease stage, and does not imply immunity.

5. Non-reactive results do not rule out HSV infection. The time required to seroconvert following primary infection varies with the individual. Non-reactive results in suspected early herpes simplex disease should be repeated in 4-12 weeks, or tested by another method.

6. Equivocal results should be repeated in 4-12 weeks or tested by another method.

7. Since maternal antibody is passively transferred from the mother to the fetus before birth, reactive results in newborns must be interpreted cautiously. A definitive diagnosis requires viral isolation.

Human Immunodeficiency Virus (HIV)

Supplemental Information

All reactive HIV results will be reported to State of Alaska Section of Epidemiology. HIV/STD Program staff provide consultation to, and follow up with, clinical service providers on diagnosis and treatment for patients. Please contact Epidemiology at 907-269-8000.

4th Gen HIV Combo EIA Screening	**Confirmatory Multispot Differentiation**		**PCR Reference Testing**	**Interpretation**
Non-Reactive				HIV-1 antigen; HIV-1 antibodies (Groups M and O), and HIV-2 antibodies not detected.
Reactive	Reactive	Non-reactive		Antibodies to HIV-1 detected.
Reactive	Non-reactive	Reactive	Detected/Not detected	Antibodies to HIV-2 detected. Results confirmed by reference laboratory.
Reactive	Reactive	Reactive	Detected/Not detected	Unable to differentiate. Results confirmed by reference laboratory.
Reactive	Non-reactive	Non-reactive	Detected/Not detected	Unable to differentiate. Results confirmed by reference laboratory.

- A non-reactive result does not preclude the possibility of exposure to, or infection with HIV-1 and/or HIV-2.
- Non-reactive results can occur if the quantity of marker present in the sample is too low for the detection limits of the assay, or if the marker which is detected is not present during the stage of disease in which a sample is collected.

4th Gen HIV Combo EIA has not been established for individuals younger than 2 years of age.

v013015

Norovirus Detailed Collection Instructions

Norovirus outbreak testing should be pre-approved by the Section of Epidemiology. Please call the Section of Epidemiology at 907-269-8000 during business hours or 1-800-478-0084 after business hours.

Collection of Specimens

1. Section of Epidemiology will determine the number of specimens that need to be collected (usually 4-6).
2. Raw, loose, stool and vomitus are appropriate specimens to collect.
3. Collect at least 5 mL, preferably 10-50 mL of specimen.
4. Collect specimen in a clean, leak-proof container. Supplies can be obtained from Epidemiology, the Alaska State Virology Laboratory – Fairbanks or Anchorage State Public Health Laboratory.
5. Collection should begin as soon as symptoms appear, ideally within 48-72 hours of onset.
6. **DO NOT** submit samples in universal transport media (UTM).

Storage and Transport

1. Store specimens at 4°C.
2. Complete all information on the norovirus request slip. Paperwork may be obtained from Section of Epidemiology, Alaska State Virology Laboratory – Fairbanks or Anchorage.
3. Specimen containers should be individually sealed and bagged with the appropriate amount of absorbent material. (Roughly two paper towels per 50 ml.)
4. Paperwork should be separated from the specimen.
5. Specimens should be packaged and labeled as Biological Substance, Category B, and shipped in an insulated, waterproof shipping container with cool packs.
6. Arrange with Section of Epidemiology for transportation to:

Alaska State Virology Laboratory - Fairbanks
931 Sheenjek Drive
Or P.O. Box 60230 if sending by mail service
Fairbanks, AK 99706-0230
(907) 371-1000

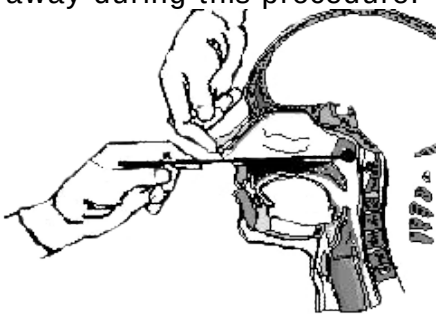
Note: Food, water or environmental samples are not tested. Please refer any further questions to the Alaska State Virology Laboratory – Fairbanks at 907-371-1000.

Pertussis PCR: Detailed Collection Instructions

Supplies Needed: Dacron/Polyester Nasopharyngeal Swab
(Fisher # 14-906-23, 22-209-50, 23-600-952, 23-600-955 or VWR # 95041-316)
NO cotton or calcium alginate swabs will be accepted.
Anchorage Lab Request Form

Collection Instructions:

1. The nasopharyngeal (NP) swab used for collecting this sample type has a fine wire or plastic shaft.
2. One NP swab is collected for PCR as described below.
3. Remove mucus from the patient's nose.
4. Estimate the distance to the nasopharynx. *Prior to insertion of the swab, measure the distance from the corner of the nose to the front of the ear and insert the shaft ONLY* <u>*half this length*</u>*.*
5. Carefully open package containing the NP swab and remove swab for sample collection.
6. Immobilize the patient's head. Have the patient sit with head against a wall as there is a tendency to pull away during this procedure.



7. <u>Gently</u> insert the swab along the medial part of the septum, along the base of the nose, until it reaches the posterior nares. Gently rotating the swab may be helpful in insertion. If resistance is encountered, try the other nostril, as the patient may have a deviated septum.
8. Leave swab in place in nasopharynx for 10 seconds or gently rotate 3 times to acquire columnar epithelial cells and remove swab.
9. Place the NP swab back into tube or paper sleeve.
10. Seal paper sleeve with tape to allow external decontamination without compromise of specimen.
11. Clearly label the paper sleeve or tube containing the swab with patient's name and collection date.
12. Complete the Anchorage Lab Request Form.

Transport:

1. Place NP swab in the ziploc portion of a specimen transport bag and seal. Place the completed Anchorage Lab Request form in outside pouch.
2. Package as a Biological Substance Category B specimen according to all current shipping regulations and send to the State Public Health Laboratory-Anchorage as soon as possible. If possible, hold NP swab at 4°C until transport. Ship at ambient temperature.

Note: Testing is not recommended for patients treated with antibiotics ≥ 5 days as false negative results may occur.

Rabies Specimen Submission Instructions

1. Contact the Section of Epidemiology for authorization before you send a specimen to ASVL for testing.
   - Work hours: 907-269-8000
   - After hours: 800-478-0084
2. Specimens can be submitted by health care providers, veterinarians, environmental health officers, wildlife agents, law officers or other individuals designated by the Section of Epidemiology.
3. Call ASVL before you ship an authorized specimen; tell us how you shipped it and when to expect it.
   - Work hours: 907-371-1000
   - After hours emergency contact: 855-371-1001 option #6

Conditions of Shipment

4. No living animal will be accepted for rabies testing at ASVL.
5. Small animals; whole carcasses should be submitted: (Example: cats, ferrets, mink, voles, hares and bats)
6. Large animals; only the intact head of a large animal will be accepted. (Example: dogs, wolves, bears)
   - Do not send a whole body
   - Do not attempt to remove the brain

Prepare and Pack the Specimen

7. Wear appropriate personal protective equipment (PPE) when processing the specimen.
   - ➢ If you have any questions about how to safely handle the specimen, consult the Section of Epidemiology.
8. You must surgically separate the head from the body of larger animals at the upper neck.
9. Put the specimen in **2** heavy, waterproof bags.
10. Tie each bag separately to prevent leakage.
11. Appropriately dispose of your contaminated gloves:
    - Preferred – remove your gloves and place them in the 2nd plastic bag before you tie it up.
    - Alternative – incinerate them.
12. Wash your hands thoroughly with soap and water.
13. Put the bagged specimen in a leak-proof container and place refrigerant packs around the specimen.
14. Complete the Rabies Investigation Request, place it in a plastic bag and put it in the leak-proof container.
15. Close the container and seal it securely with fibrous packing tape.
16. Specimens should be kept cold (35-45°F = 2-8°C) prior to and during shipment.
    - Ship specimens with cold packs; DO NOT use ice; it will melt during transit and make an unsafe mess.
    - Frozen specimens are acceptable; freezing will not affect the rabies assay although testing may be delayed until the specimen has thawed.
17. The carcass of a potentially infectious animal should be incinerated.

➢ ASVL will incinerate the remains of all pets tested for rabies; bodies will not be returned to the owner.

Label the Container

18. All rabies specimen containers must bear the following label:

URGENT EXPEDITE
BIOLOGICAL SUBSTANCE CATEGORY B: UN 3373
Packaged in compliance with IATA packing (Instruction 650)
This Package Contains an Animal Head
Keep Refrigerated

Call the Alaska State Virology Laboratory
Business Hours: 907-371-1000; After Hours: 855-371-1001 option #6

You can download this label from the ASPHL website at:
http://dhss.alaska.gov/dph/Labs/Documents/publications/Rabies_label.pdf

Decide how you will ship the specimen and address it accordingly

19. We prefer you ship by Goldstreak, or other Air Special Package Service using the address below. ASVL will pick the specimen up at the designated airline location.

Alaska State Virology Laboratory
931 Sheenjek Dr.
UAF Campus, Fairbanks, AK 99775

Business Hours: 907-371-1000; After Hours: 855-371-1001 option #6

20. If you must ship via US Mail, please use Priority or Express Mail and the address below.

Alaska State Virology Laboratory
P.O. Box 60230
Fairbanks, AK 99706-0230

Business Hours: 907-371-1000; After Hours: 855-371-1001 option #6

Notes:

- Shipments must be **PREPAID** unless prior arrangements have been made with the Section of Epidemiology.
- ASVL will call results to the submitter and the Section of Epidemiology on all **POSITIVE** animal heads and on **ALL HUMAN EXPOSURE** cases within 24-48 hours of specimen receipt.
- A copy of the results will be mailed to the submitter as soon as possible.

As usual, please feel free to contact ASVL if you have any questions about testing.

Stool Culture and Parasitology Detailed Collection Instructions

Please read all directions first and follow them carefully.
You have been asked to collect a stool sample for laboratory analysis. The collection set may contain 1 to 4 vials. One of the vials may be empty (contains no liquid).

1. **You will need:**
   - Gloves
   - A clean, dry container (like a margarine tub) or plastic wrap to stretch across the toilet to collect the stool.
   - Transport container(s): Your provider will give you the appropriate containers.
     - Red Top Vial: for Bacteria like *Salmonella* or *Escherichia coli*
     - Yellow and blue Top Vials: for Parasites like *Giardia*
     - Leak Proof container: for Viruses like Norovirus
   - Pen or marker to label the transport containers
2. **Please wash your hands before collecting the stool sample.**
   - Do not pass the specimen into the toilet.
   - Do not pass the specimen directly into the collection vial.
   - Do not urinate on the specimen or into the collection vial.
   - Do not allow any water to mix with the specimen.
3. **Put on gloves. Stool can contain material that spreads infection.**
4. **Pass stool into a dry container**. Or stretch plastic wrap loosely across the toilet bowl, between the seat and the base to catch the stool.
   - Either solid or liquid stool can be collected.
   - Samples from babies and young children may be collected from diapers lined with plastic wrap (if the stool is not contaminated with urine).
5. **Carefully open each vial.**
   - If the stool is liquid, carefully pour to the fill line indicated on the container.
   - If the stool is solid, use the paddle on the container cap to scoop a walnut size amount into the vial.
   - If one vial contains no liquid, fill to at least 1/3 of the container.
   - Do not overfill the vials!!
6. **Screw the cap tightly** onto the transport container it came from. Shake the sample until the samples are well-mixed with the liquid in the vial.
7. **Remove your gloves and wash your hands.**
8. **Label all of the containers** with the patient's first and last name, date of birth, and the collection date.
9. **Return the transport containers** as directed. Make certain that all the vials are tightly capped to avoid leaks.

Tuberculosis/*Mycobacterium* Detailed Collection Instructions

- Seal all specimens with Parafilm® (or similar) and store refrigerated. Ship on cool packs.
- Ship samples as Biological substances, Category B as soon as possible.
- Specimens must be received in our laboratory within 10 days of collection.
- DO NOT use waxed containers or urine cups.
- Swabs are NOT recommended for the isolation of Mycobacteria.

Sputum:
Collect early morning specimens from a deep productive cough on three consecutive days, before the patient eats, drinks or takes medication. Use separate collection tube each day.

Have patient rinse their mouth with water prior to collection. Collect **5-10 mL** sputum in sterile 50 ml screw capped tubes containing sodium carbonate preservative. Specimens must be at least 2 mL in volume.

Blood:
10 mL of blood collected in SPS (yellow top) Isolator microbial tube.

Bone Marrow:
10 mL of blood collected in SPS (yellow top) Isolator microbial tube, or
Sterile container with sterile saline if isolator tubes are not available.

Bronchoalveolar lavage or Bronchial washing:
At least 5 mL in sterile container. Avoid contaminating bronchoscope with tap water.

Bronchial Brush/Brushing:
Sterile container with sterile saline.

Body Fluids (Pleural, peritoneal, synovial, pericardial, etc.):
Submit at least 10-15 mLs in sterile 50 mL conical tubes.
Add sterile anticoagulant (SPS or heparin) to body fluids if necessary. Do not use preservatives.

CSF:
Submit at least 2 mL in sterile container.

Gastric Lavage/Aspirate:
Collect 5-10 mL of gastric washing in sterile 50 mL conical tube.
Adjust pH to neutral with 100 mg of sodium carbonate immediately following collection and note on requisition form.

Stool:
Submit samples in sterile 50 mL conical tubes.

Tissue, aspirate, bone, lymph nodes, biopsy, abscess contents:
Submit samples in sterile 50 mL conical tubes.
Add sterile saline to cover specimen.

Urine:
Collect first morning, clean catch, mid-stream urine specimens on three consecutive days.
Submit 40-50 ml of urine in a sterile 50 mL sterile crew capped conical tube.

Instructions for Collecting Sputum Samples

Why is a Sputum Test Necessary?

- Your doctor needs you to collect a sputum sample to test for tuberculosis (TB) in your lungs. Checking your sputum is the best way to find out if you have TB disease or to see if your treatment is working.

- To collect an acceptable sample you need to cough up sputum from deep inside of your lungs as soon as you wake up in the morning. The lab needs at least 5 mL of sputum.

How to Collect a Sputum Sample

1. The TB sputum tube must not be opened until you are ready to use it. DO NOT REMOVE preservative (white powder) from the tube.

2. As soon as you wake up in the morning, before you eat or drink, rinse your mouth with WATER.

3. Take a very deep breath and hold air for 5 seconds. Slowly breathe out. Take another deep breath and cough hard until some sputum comes up into your mouth.

4. Spit the sputum into the TB tube.

5. Keep collecting until the sputum reaches the 5 mL line on the TB tube.

6. Screw the orange cap on the tube tightly so it doesn't leak.

7. Wash and dry the outside of the TB tube.

8. Write your NAME, DOB, and the DATE/TIME you collected the sputum on the tube and lab form.

9. Put the tube into the bag provided.

10. Deliver sample(s) to your doctor's office or mail to the laboratory AS SOON AS POSSIBLE. *(Samples must be received at the Anchorage laboratory for testing within 10 days of collection.)*

11. If you need to collect three TB samples, collect them in the morning on three different days. Do not collect more than one per day.

Alaska State Public Health Laboratory: 5455 Dr. Martin Luther King Jr. Ave, Anchorage, AK 99507 Phone: (907) 334-2100 Fax: (907) 334-2161

Alaska Tuberculosis Control Program: For more information about TB call Epidemiology at (907) 269-8000 or visit their website at: www.epi.hss.state.ak.us/id/tb.stm

MTB PCR Testing Information Sheet

The State of Alaska Public Health Laboratory (ASPHL) developed and characterized a nucleic acid amplification test (NAAT) by real-time polymerase chain reaction (PCR) for use on respiratory specimens for the diagnosis of tuberculosis (TB). This assay has not received clearance by the Food and Drug Administration. The Center for Disease Control and Prevention recommends NAAT be performed on one AFB smear positive respiratory specimen from each patient with signs and symptoms of pulmonary TB for whom a diagnosis of TB is being considered but has not been established, and the test result would alter case management or TB control activities.[1]

The ASPHL will perform NAAT on **initial smear-positive respiratory specimens** if the provider authorizes testing **and** the patient meets the criteria. ASPHL will contact the provider and fax authorization form. Test authorization forms must be completed prior to testing. Additionally, ASPHL will perform MTB PCR testing on **smear-negative specimens** from suspect TB cases on pre-approval from the Alaska Tuberculosis Control Program and provider request.

The cost for testing is $153 and fees for service will be billed to the facility requesting the specimen.

Patient Criteria

- Patient must be reported to the Alaska Tuberculosis Control Program as a suspect TB case (907-269-8000)
- Patient must have signs and symptoms of pulmonary TB
- Patient must not have been diagnosed with TB or a Nontuberculous mycobacterial infection or received treatment within the last 12 months

PCR Testing Algorithm and Result Interpretation

Smear Result	MTB PCR Result	Interpretation
Smear Positive for AFB	*Mycobacterium tuberculosis* complex DNA detected	This patient is presumed to have Tuberculosis, pending culture results.
	No *Mycobacterium tuberculosis* complex DNA detected	Use clinical judgment to determine whether to begin therapy while awaiting culture results. A patient is presumed to have an infection with Nontuberculous mycobacteria, pending culture results.
Smear Negative for AFB	*Mycobacterium tuberculosis* complex DNA detected	Use clinical judgment to determine whether to begin therapy while awaiting culture results. This patient is presumed to have Tuberculosis, pending culture results.
	No *Mycobacterium tuberculosis* complex DNA detected	Use clinical judgment to determine whether to begin therapy while awaiting results of culture and other diagnostic tests. Currently available PCR tests are not sufficient to exclude the diagnosis of Tuberculosis.
	Unsatisfactory	Insufficient cells collected for valid PCR test result.

[1] CDC. Updated guidelines for the use of nucleic acid amplification tests in the diagnosis of tuberculosis. MMWR 2009; 58:7-10.

Mycobacterium tuberculosis complex PCR and culture testing must be correlated with patient history to confirm as a case *of Mycobacterium tuberculosis* complex infection. The IS6110 PCR detects the presence of a specific DNA sequence present in *Mycobacterium tuberculosis* Complex (MTC), which includes *M. tuberculosis, M. africanum, M. bovis, M.bovis BCG, M. cannetti, M. caprae, M. microti, and M. pinnipedii*. Results from the IS6110 PCR test are not intended to be used as the sole means for clinical diagnosis or patient management decisions.

Collection/Submission of Specimens

Refer to the Laboratory Test Directory for collection and shipping instructions.
http://www.hss.state.ak.us/dph/labs/publications/image/Lab_Svcs_Manual.pdf

Contact information

Alaska Tuberculosis Control Program	**Rapid Telephonic Reporting**	**Alaska State Public Health Laboratory**
1-907-269-8000 during work hours **1-800-478-0084 after hours**	**Statewide 1-800-478-1800** **Anchorage 1-907-561-4234** **Fax 1-907-561-4239**	**1-907-334-2100 Main Line** **1-907-334-2139 TB Dept.** **Fax 1-907-334-2161**