Laboratory Test Directory

State of Alaska
Department of Health
Division of Public Health
Section of Laboratories
Revised 08/04/2022

Laboratory Contacts

[Alaska State Public Health Laboratories Website]

Alaska State Public Health Laboratory – Anchorage (ASPHL) - CLIA 02D0674496 **Phone: 907-334-2100** **Fax: 907-334-2161** Business Hours: 8:00 am – 4:30 pm Monday – Friday **Emergency Calls After Hours** **855-222-9918**	**Alaska State Virology Laboratory - Fairbanks (ASVL) – CLIA 02D0674508** **Phone: 907-371-1000** **Fax: 907-474-4036** Business Hours: 8:00 am – 4:30 pm Monday – Friday **Emergency Calls After Hours** **855-371-1001 option 6**
Chief of the Section of Laboratories Jayme Parker, PhD, HCLD(ABB), CLIA Director Phone: 907-371-1005	**Public Health Laboratory Scientist** Dr. Jack Chen Phone: 907-371-1002
Clinical Evaluation Specialist/CLIA Surveyor Katherine Ross Phone: 907-334-2112	**Radiological Health** Irene Casares Phone: 907-334-2107
Analytical Chemistry/Toxicology David Verbrugge Phone: 907-334-2156 **Chemistry After Hours: 855-222-0951**	**Bioterrorism/Special Pathogens/Molecular Biology** John Laurance Phone: 907-334-2123 **Biothreat After Hours: 855-222-0957**
Clinical Microbiology Theresa Savidge Phone: 907-334-2108	**Clinical Virology** Nisha Fowler Phone: 907-371-1000 **Rabies After Hours: 855-371-1001 option #6**

When shipping specimens via third party vendors (FedEx, UPS, Goldstreak, RAVN, etc.) use:

Alaska State Public Health Laboratory – Anchorage 5455 Dr. Martin Luther King Jr. Ave Anchorage, AK 99507	Alaska State Virology Laboratory 1051 Sheenjek Drive Fairbanks, AK 99775

When shipping specimens and other mail via United States Postal Service (USPS) use:

Alaska State Public Health Laboratory – Anchorage PO Box 196093 Anchorage, AK 99519-6093	Alaska State Virology Laboratory PO Box 60230 Fairbanks, AK 99706-0230

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Submitter Criteria

Clinical:

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

Environmental and Special Pathogens:

- 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 (907-269-8000 during business hours or 800-478-0084 during non-business hours). Also, contact Biothreat Team (855-222-0957) or Chemical Threat Team (855-222-0951) 24/7 prior to submitting samples.
- 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).

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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 or expired blood collection devices are unsatisfactory and will not be tested.

Supply Request Form

Supply	Description
APTIMA® CT/GC/Trichomonas Collection Kits	3 kit types: Urine Collection Unisex Swab for endocervical, urethral, eye, rectal, or oropharyngeal collections Multitest Swab for vaginal, oropharyngeal, and rectal collections
ETM	Enteric Transport Medium (ETM) for stool cultures
Intestinal Ova and Parasite Kit (O&P)	10% buffered formalin and Zinc-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	BBL BD CultureSwab™ EZ
Pinworm	Pinworm Paddle
UTM and swab kit	Universal Transport Media (UTM) for stabilizing viruses with collection swabs. Swabs are made of synthetic, plastic materials only (i.e., Dacron). Metal, wood, calcium alginate or cotton material will NOT be accepted.

** Please note – Alaska State Public Health Laboratories do NOT supply **blood collection tubes** or **biohazard bags**. **

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Request Forms and Specimen Labeling

- A properly completed **laboratory test request form** must accompany each diagnostic specimen. The following fields are highlighted on the Lab Request form and are required:
    - Patient's first and last name and/or other identifier
        - Examples: chart #, medical record #, prison ID
    - Date of birth
    - Gender
    - Specimen source
    - Date of specimen collection (time if applicable)
    - Provider name & mailing address
    - Test(s) requested

- Identifiers on the specimen itself should match the Laboratory Test Request **exactly**. At a minimum, the specimen should be labeled with:
    - The patient's full 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 ASPHL or ASVL, 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 and will not be processed.**

- **Unlabeled or improperly labeled specimens will be rejected as UNSATISFACTORY at time of receipt and will not be processed.**

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Laboratory Test Requisition Forms

Alaska State Public Health Laboratory - Anchorage

Error! Hyperlink reference not valid. https://health.alaska.gov/dph/Labs/Documents/publications/AncTestReq.pdf

Alaska State Virology Laboratory - Fairbanks

https://health.alaska.gov/dph/Labs/Documents/publications/Virologytestreq.pdf

Alaska State Virology Laboratory - Rabies

https://health.alaska.gov/dph/Labs/Documents/publications/Rabies_Instructions.pdf
https://health.alaska.gov/dph/Labs/Documents/publications/Rabies_Inv_Report.pdf
https://health.alaska.gov/dph/Labs/Documents/publications/Rabies_label.pdf

Both Laboratories – COVID-19 and other Respiratory Pathogens

Error! Hyperlink reference not valid.https://health.alaska.gov/dph/Labs/Documents/RespPathRequestForm.pdf

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Specimen Shipping

For current shipping regulations and instructions, please refer to the International Air Transport Association (IATA), US Department of Transportation (DOT), US Postal Service (USPS), and American Society of Microbiology (ASM).

- International Air Transport Association (IATA): http://www.iata.org/index.htm
- US DOT - Transporting Infectious Substances Safely: https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/2020-04/Transporting%20Infectious%20Substances%20Safely.pdf
- United States Post Office: http://www.usps.com/
- ASM Sentinel Laboratory Guidelines for Packing & Shipping: https://asm.org/Guideline/Packing-and-Shipping-Infectious-Substances

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

https://health.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, faxed, or electronically sent through HIPAA-compliant routes to submitters as testing is completed.
- If requested, submitters will be notified of significant or positive results by phone or fax.
- Section of Epidemiology is notified of results reportable to the Alaska Division of Public Health, but it is also the responsibility of the Healthcare Provider and/or the referral laboratory to report accordingly.

Infectious Diseases Reportable by Laboratories

https://health.alaska.gov/dph/Epi/Documents/pubs/conditions/ConditionsReportable_LABS.pdf

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Acetone

See Toxic Alcohols & Ethylene Glycol

Acid fast stain for Cystoisospora (Isospora), Cyclospora, and Cryptosporidium oocysts

Testing site	Alaska State Public Health Laboratory – Anchorage (907-334-2100)
Anchorage Requisition Form	
Disease(s)	Isosporiasis, Cyclosporiasis, Cryptosporidiosis
Organism(s)	*Cystoisospora (Isospora) belli, Cyclospora cayetanensis, Cryptosporidium* species
Test Method	Acid-fast stain
Specimen	Stool
Collection Container	Intestinal O & P Collection Kit
Request supplies	
Storage/Transport	Ambient temperature Package and label as Biological Specimen, Category B
Results	*Cystoisospora (Isospora) belli* Observed/Not Observed *Cyclospora cayetanensis* Observed/Not Observed *Cryptosporidium* species Observed/Not Observed A normal result is ***not observed***.
Turnaround Time	3-5 days

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Adenovirus

See Respiratory Pathogen Panel

Aerobic bacterial culture identification

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory – Anchorage (907-334-2100)
Disease(s)	Sepsis, infection
Organism(s)	Aerobic bacteria
Test Method	Culture
Availability	Referrals only, no routine cultures
Specimen	Blood, cerebral spinal fluid (CSF), tissue, wounds
Storage/Transport	Specimen must be received within 48 hours of collection. Ambient temperature. Package and label as Biological Specimen, Category B
Results	Organism identified (genus and species)
Turnaround Time	2-5 days

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Aeromonas spp.

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory – Anchorage (907-334-2100)
Disease(s)	Bacterial gastroenteritis
Organism(s)	*Aeromonas* species
Test Method	Culture
Specimen Request supplies	Stool in Enteric Transport Media (ETM) Pure isolate submitted on Cary Blair Swab, or Bacterial Transport Media
Special Conditions	Stool 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 into transport. Add enough stool to fill exactly to **red fill line.** Do not overfill.
Storage/Transport	Ambient temperature Package and label as Biological Specimen, Category B
Results	*Aeromonas* species Isolated/Not Isolated A normal result is ***not isolated***.
Turnaround Time	2-7 days

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Bacillus anthracis

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory – Anchorage (907-334-2100)
Disease(s)	Anthrax infection forms: Cutaneous, gastrointestinal, or inhalation. Malignant pustule, malignant edema, Wool-Sorter disease.
Organism	*Bacillus anthracis*
Availability	**All clients must consult with Section of Epidemiology 907-269-8000 during business hours or 1-800-478-0084 during non-business hours.** **Contact ASPHL Biothreat Team prior to submitting samples at 1-855-222-0957.**
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 (https://asm.org/Articles/Policy/Laboratory-Response-Network-LRN- Sentinel-Level-C). Contact ASPHL with questions at 907-337-2100.
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 *B. anthracis* detected/not detected Confirmatory *B. anthracis* detected/not detected A normal result is ***not detected***.
Turnaround Time	2-5 days

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Blood parasites

Testing site	Alaska State Public Health Laboratory - Anchorage (907-334-2100)
Anchorage Requisition Form **Disease(s)**	Malaria, Babesiosis, Trypanosomiasis
Organism(s)	*Plasmodium* species*, Babesia* species, *Trypanosoma* species
Test Method	Microscopic examination
Specimen	EDTA whole blood sample, minimum 2 mL Both thick and thin smears (2 each), made as soon as possible after EDTA blood collection
Specimen Collection	Refer to CDC DPDx Website for collection and smear preparation instructions: http://www.dpd.cdc.gov/dpdx/HTML/DiagnosticProcedures.htm
Special Conditions	Specimens should be collected before treatment is initiated, generally midway between chills. Multiple specimens may be necessary at 6 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 A normal result is ***no blood parasites observed***.
Turnaround Time	1-2 days
Notes	Requests for Microfilaria are referred to the CDC

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Botulinum neurotoxin, *Clostridium botulinum*

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory - Anchorage (907-334-2100)
Disease(s)	Botulism. Infection forms: 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 must consult with Section of Epidemiology 907-269-8000 during business hours or 1-800-478-0084 during non-business hours.** **Contact ASPHL Biothreat Team prior to submitting samples at 1-855-222-0957.**
Specimen Botulism Collection Instructions	Stool, enema fluid, gastric aspirate, pre-antitoxin serum, food, and environmental samples.
Specimen Collection	Refer to ASM Sentinel Level Clinical Microbiology Guidelines (https://asm.org/Articles/Policy/Laboratory-Response-Network-LRN- Sentinel-Level-C). Contact ASPHL with questions at 907-337-2100.
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 A normal result is ***not isolated***.
Turnaround Time	Toxin 14 days Culture 7-30 days

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Brucella spp.

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory - Anchorage (907-334-2100)
Disease(s)	Brucellosis, Undulant fever, Malta fever
Organism(s)	*Brucella* spp.
Availability	**All clients must consult with Section of Epidemiology 907-269-8000 during business hours or 1-800-478-0084 during non-business hours.** **Contact ASPHL Biothreat Team prior to submitting samples at 1-855-222-0957.**
Specimen	Organism isolate, blood, serum, spleen, liver, abscess, environmental samples, food
Specimen Collection	Refer to ASM Sentinel Level Clinical Microbiology Guidelines (https://asm.org/Articles/Policy/Laboratory-Response-Network-LRN-Sentinel-Level-C). Contact ASPHL with questions at 907-337-2100.
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 *Brucella* spp. Detected/Not Detected Confirmed *Brucella* spp. Detected/Not Detected *Brucella* serum antibody Titer specified A normal result is ***not detected***.
Turnaround Time	7-21 days

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Burkholderia mallei, Burkholderia pseudomallei

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory - Anchorage (907-334-2100)
Disease(s)	Glanders, Melioidosis
Organism(s)	*Burkholderia mallei* or *Burkholderia pseudomallei*
Availability	**All clients must consult with Section of Epidemiology 907-269-8000 during business hours or 1-800-478-0084 during non-business hours.** **Contact ASPHL Biothreat Team prior to submitting samples at 1-855-222-0957.**
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 (https://asm.org/Articles/Policy/Laboratory-Response-Network-LRN-Sentinel-Level-C). Contact ASPHL with questions at 907-337-2100.
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 *B. mallei* Detected/Not Detected Confirmatory *B. pseudomallei* Detected/Not Detected A normal result is ***not detected***.
Turnaround Time	3-7 days

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Campylobacter spp.

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory - Anchorage (907-334-2100)
Disease(s)	Campylobacteriosis
Organism(s)	*Campylobacter jejuni, Campylobacter* species
Test Method	Culture
Specimen Request supplies	Pure isolates (Cary Blair Transport Swabs) Stool in ETM (Stool culture and Parasitology Detailed Collection Instructions)
Storage/ Transport	Ship stool at ambient temperature Ship isolates on cold packs Package and label as Biological Substance, Category B
Results	*Campylobacter jejuni* Presumptive *Campylobacter* species, sent to CDC for identification No *Campylobacter* species isolated A normal result is ***no Campylobacter species isolated***.
Turnaround Time	2-5 days
Notes	A laboratory that isolates *Campylobacter* must submit an isolate or an aliquot of the original specimen to ASPHL.

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Chemical Terrorism Event

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory - Anchorage (907-334-2100)
Agent	**Unknown** toxic chemical exposure(s)
Test Method	Rapid Toxic Screen (performed by the Centers for Disease Control and Prevention in Atlanta, GA)
Availability	**This testing is available to clients with suspected exposure to an unknown toxic chemical(s), as determined and prioritized by Epidemiology (269-8000) 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-Exposure Incident (https://emergency.cdc.gov/chemical/lab.asp) • **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.

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Chlamydia & Gonorrhea

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory - Anchorage (907-334-2100)
Disease(s)	Chlamydia, Gonorrhea, STD
Organism(s)	*Chlamydia trachomatis* (CT), *Neisseria gonorrhoeae* (GC)
Test Method	Nucleic Acid Amplification (NAAT). Transcription 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.
Specimen	Urine Vaginal Endocervical Urethral (male only) Rectal Oropharyngeal Conjunctival on prior approval
Specimen Collection Request supplies Oropharyngeal Collection Instructions Rectal Collection Instructions Self-collect Vaginal Instructions	Hologic APTIMA Collection Kits: Urine Collection Kit (yellow tube) First catch urine of initial urine stream; must be added to transport within 24 hours of collection. Multitest Swab Collection Kit (orange tube) Used for Vaginal, Rectal, and Oropharyngeal Follow instruction provided in kit Unisex Swab Collection Kit (white tube) Used for endocervical, urethral, rectal, oropharyngeal, and eye 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 Package and label as Biological Specimen, Category B Urine specimens must be tested within 30 days of collection, Unisex swab specimens within 60 days.
Results	*Chlamydia trachomatis* Positive/Negative *Neisseria gonorrhoeae* Positive/Negative Therapeutic failure or success cannot be determined with the APTIMA Combo 2 Assay since the nucleic acid may persist following appropriate antimicrobial therapy. A normal result is ***negative***.
Turnaround Time	1-2 days

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COVID-19 (SARS-CoV-2, coronavirus disease 2019)

Testing site SARS-CoV-2 Requisition Form	**For specimens from the Anchorage/Mat-Su region of Alaska, please send to:** Alaska State Public Health Laboratory - Anchorage (907-334-2100) **For specimens from all other regions of Alaska, please send to:** Alaska State Virology Laboratory (ASVL) – Fairbanks (907-371-1000)
Disease(s)	Coronavirus disease 2019 (COVID-19)
Organism(s)	SARS-CoV-2, novel coronavirus 2019
Test Method	Real-time polymerase chain reaction, transcription mediated amplification, sequencing
Required specimens	Collect one specimen per patient.
Specimen Collection Request supplies Nasopharyngeal Collection Instructions	*Nasopharyngeal swab* (NP):* Insert a swab into one nostril parallel to the palate. Leave the swab in place for a few seconds to absorb secretions. *Oropharyngeal swab* (OP, i.e. throat swab):* Swab the posterior pharynx, avoiding the tongue. *Nasal swab* (NS):* Self- or healthcare worker-collected nasal swabs are acceptable if an NP swab is not possible. **Swabs: use synthetic material swabs only (i.e. Dacron, polypropylene, rayon, polyester). Cotton or calcium-alginate tips and wooden shafts are not acceptable.* All swabs must be stored in 2-3 mL of acceptable viral transport media, including sterile RNase-free phosphate buffered saline (PBS).
Storage/Transport	Store all specimens in your refrigerator (2-8°C) up to 72 hours or freeze for longer storage. Pack refrigerated specimens on ice packs to preserve viral integrity. Pack frozen specimens with plenty of ice packs or dry ice. Ship as a Biological Substance Category B UN3373. If using dry ice, indicate UN1845 as well.
Results	**Positive:** this is a final result. **Not Detected**: this is a final result, unless other testing is requested. **Inconclusive:** this result indicates intermittent reactivity. **Invalid:** this result indicates that the specimen was inhibitory or insufficiently collected. A normal result is ***not detected***.
Turnaround Time	1 - 3 days

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Cyanide

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory - Anchorage (907-334-2100)
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	8 hours from time of receipt

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Diphtheriae culture

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory - Anchorage (907-334-2100)
Disease(s)	Diphtheria
Organism(s)	*Corynebacterium diphtheriae*
Test Method	Culture
Specimen	Pure isolate Obtain material from the inflamed areas in the nasopharynx. If the membranes are present and can be removed, swab from beneath the membrane, in sterile saline on ice packs Throat, wound or nose swab
Collection Container	BBL BD CultureSwab™ EZ Polyester, rayon or nylon swabs in bacterial transport media such as Amies or Stuart
Special Conditions	Ship as soon as possible.
Storage/Transport	Ambient temperature Package and label as Biological Specimen, Category B
Results	*Corynebacterium diphtheriae* Isolated/Not Isolated A normal result is ***not isolated***. All isolates of *C. diphtheriae*, whether toxigenic or nontoxigenic, regardless of association with disease, and from any anatomic site (respiratory, cutaneous, or other) will be sent to the CDC Diphtheria Laboratory, CDC, for confirmation and toxin testing.
Turnaround Time	3 days

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Ebola virus

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory - Anchorage (907-334-2100)
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 must consult with Section of Epidemiology 907-269-8000 during business hours or 1-800-478-0084 during non-business hours.** **Contact ASPHL Biothreat Team prior to submitting samples at 1-855-222-0957.**
Collection Container	EDTA or sodium polyanethol sulfonate (SPS) preservative in plastic tubes
Storage/Transport	2-8°C ship on wet ice or cold packs Package and label as Infectious Substance, Affecting Humans UN2814 Category A, ship as quickly as possible.
Results	Ebola RNA detected Ebola RNA not detected A normal result is ***not detected***.
Turnaround Time	1 day for testing result. If patient is tested less than 3 days after the onset of fever, retesting at 72 hours post-onset may be required.

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Ectoparasites

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory - Anchorage (907-334-2100)
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) A normal result is ***no Ectoparasites observed***.
Turnaround Time	1 day

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Enteric stool culture

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory - Anchorage (907-334-2100)
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, Shigatoxin producing *Escherichia coli* **Note:** Additional testing for *Yersinia enterocolitica, Vibrio* species*, Aeromonas* species and *Plesiomonas* species are performed upon request.
Test Method	Culture **Note:** Shigatoxin testing by EIA for Enterohemorrhagic *E. coli* is performed on all stool cultures.
Specimen Request supplies	Stool in Enteric Transport Media (ETM) Pure Isolate submitted on Cary Blair Swab, or Bacterial Transport Media
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, Bacillus cereus* or *Clostridium perfringens* are suspected.
Specimen Collection Stool Collection Instructions	Collect stool in clean dry container or on plastic wrap stretched across toilet. **Sample must be placed into ETM within one hour of sample collection**. Carefully open ETM, use scoop mounted in lid to place approximately a walnut size amount of stool into transport. Add enough stool to fill exactly to **red fill line.** Do not overfill.
Storage/Transport	Ambient temperature. Package and label as Biological Specimen, Category B
Results	▪ *Salmonella* spp. *>includes serotyping* Isolated/Not Isolated ▪ *Shigella* spp. *>includes serotyping* Isolated/Not Isolated ▪ *Campylobacter* spp. Isolated/Not Isolated ▪ *Escherichia coli* O157 Isolated/Not Isolated ▪ Non-O157 Shigatoxin producing *E.coli* Isolated/Not Isolated ○ *Includes serotyping for O26, O45, O103, O111, O121, and O145* ▪ Usual gram-negative flora Present/No Growth 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 A normal result is ***not isolated.***
Turnaround Time	2 - 5 days
Note	A laboratory that isolates *Campylobacter, Salmonella, Shigella, E. coli* Shigatoxin producing, *Vibrio* or *Yersinia* species must submit an isolate or an aliquot of the original specimen to ASPHL.

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Enterovirus

See Respiratory Pathogen Panel (RPP)

Escherichia coli O157

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory - Anchorage (907-334-2100)
Disease(s)	Hemolytic Uremic Syndrome (HUS), bloody stool
Organism(s)	*Escherichia coli* O157
Test Method	Culture and Identification Serotyping
Specimen Request supplies Stool Collection Instructions	Pure Isolate submitted on Cary Blair Swab, or Bacterial Transport Media Stool in ETM (see Enteric Stool Culture)
Storage/Transport	Ambient temperature Package and label as Biological Substance, Category B.
Results	*Escherichia coli* O157 Isolated/Not Isolated A normal result is ***not isolated***.
Turnaround Time	2-5 days
Notes	Laboratories must send all suspected and/or confirmed isolates to ASPHL for confirmation and epidemiological studies.

Ethanol

See Toxic Alcohols & Ethylene Glycol

Ethylene Glycol

See Toxic Alcohols & Ethylene Glycol

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Fluorescent Treponemal Antibody (FTA-ABS)

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory - Anchorage (907-334-2100)
Disease(s)	Syphilis
Organism(s)	*Treponema pallidum*
Test Method	Indirect Fluorescent Antibody Confirmatory Test – FTA-ABS DS
Specimen Collection	Serum only (non-hemolyzed, non-lipemic) Plasma and CSF 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 DS Reactive/Nonreactive A normal result is ***nonreactive***.
Turnaround Time	1-7 days, testing performed on Wednesdays. Patients previously positive at ASPHL are not retested.

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Francisella tularensis

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory - Anchorage (907-334-2100)
Disease(s)	Tularemia, Rabbit fever, Deer-fly fever
Organism	*Francisella tularensis*
Availability	**All clients must consult with Section of Epidemiology 907-269-8000 during business hours or 1-800-478-0084 during non-business hours.** **Contact ASPHL Biothreat Team prior to submitting samples at 1-855-222-0957.**
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 (https://www.asm.org/Articles/Policy/Laboratory-Response-Network-(LRN)-Sentinel-Level-C). 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) A normal result is ***not detected***.
Turnaround Time	2-7 days

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Giardia & Cryptosporidium

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory - Anchorage (907-334-2100)
Disease(s)	Giardiasis, Cryptosporidiosis
Organism(s)	*Giardia, Cryptosporidium* species
Test Method	Direct Fluorescent Antibody (DFA) stain
Specimen Request supplies	Stool in 10% Formalin and Zn-PVA Fixative (O&P Collection Kit) See Ova & Parasite Exam
Storage/Transport	Ambient temperature Package and label as Biological Substance, Category B
Results	*Giardia* Positive/Negative *Cryptosporidium* Positive/Negative A normal result is ***negative***.
Turnaround Time	5 days

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Haemophilus influenzae

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory - Anchorage (907-334-2100)
Disease(s)	Bacterial Meningitis, Pneumonia, Otitis Media
Organism	*Haemophilus* species
Specimens	Pure isolate on chocolate agar slant Amies Transport Media with Charcoal
Storage/Transport	Ship ambient temperature. Do not freeze. Package and label as Biological Substance, Category B
Notes	A laboratory that isolates *H. influenzae or H. ducreyi* must submit an isolate or an aliquot of the original specimen to ASPHL. Samples from sterile sites can be sent directly to CDC Arctic Investigations (AIP). Samples are shared between the two labs. Contact AIP for further information at 907-729-3200.

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Hepatitis A virus (HAV)

Testing site Fairbanks Requisition Form	Alaska State Virology Laboratory (ASVL) – Fairbanks (907-371-1000)
Disease	Viral hepatitis by fecal-oral transmission
Organism	Hepatitis A virus
Specimens	**Preferred** - centrifuged serum in SST (serum separator tube without additives-tiger/marble top or yellow top); **1 mL minimum** **Also accepted -** Centrifuged and *separated* EDTA plasma; **1 mL minimum**
Test Method	Enzyme immunoassay (EIA) serology – 2 assays available: Total hepatitis A antibodies Hepatitis A IgM only: indicated in symptomatic cases
Storage/Transport	Store refrigerated or frozen; **indicate date shipped, and date frozen (if applicable) on the Fairbanks Requisition Form.** Ship on frozen packs **(preferred)**, or cold packs *Ambient temperature shipping is not recommended per reagent manufacturer guidelines*
Results Result Interpretation	Hepatitis A Total Antibody Reactive/Non-Reactive/Borderline Hepatitis A IgM Antibody Reactive/Non-Reactive/Borderline
Turnaround Time	3-10 days

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Hepatitis B virus (HBV)

Testing site Fairbanks Requisition Form	Alaska State Virology Laboratory (ASVL) – Fairbanks (907-371-1000)
Disease	Viral Hepatitis
Organism	Hepatitis B Virus (formerly known as Serum Hepatitis)
Specimens	**Preferred** - centrifuged serum in SST (serum separator tube without additives-tiger/marble top or yellow top); **2 mL minimum** **Also accepted -** Centrifuged and *separated* EDTA plasma; **2 mL minimum**
Test Method	Enzyme immunoassay (EIA) serology – 5 panels available: Hepatitis B: Screen (for current or past infection) Core total antibody Hepatitis B: Immunization check Core total antibody and surface antibody Hepatitis B: Prenatal Core total antibody and surface antigen Hepatitis B: Symptomatic, Exposures Core total antibody, surface antibody, surface antigen Hepatitis B: Perinatal (less than 2 years old) Surface antibody and surface antigen Note: Hepatitis B core IgM antibody is performed on all positive surface antigen specimens to differentiate acute and chronic infection
Shipping/Transport	Store refrigerated or frozen; **indicate date shipped, and date frozen (if applicable) on Fairbanks Requisition Form.** Ship on frozen packs **(preferred),** or cold packs *Ambient temperature shipping is not recommended per reagent manufacturer guidelines*
Results Result Interpretation	Hepatitis B Virus Core Total Antibody Reactive/Non-Reactive/Borderline Hepatitis B Virus Core IgM Antibody Reactive/Non-Reactive/Borderline Hepatitis B Virus Surface Antibody Reactive/Non-Reactive/Borderline Hepatitis B Virus Surface Antigen Reactive/Non-Reactive/Borderline
Turnaround Time	3-10 days

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Hepatitis C virus (HCV)

ALGORITHM	All HCV test requests include the antibody screen. Reactive outcomes reflex to viral load quantification. If viral load is >1000 IU/mL, the virus will be genotyped**.**
Testing site Fairbanks Requisition Form	Alaska State Virology Laboratory (ASVL) – Fairbanks (907-371-1000)
Test Method(s)	Enzyme Immunoassay (EIA), transcription mediated amplification (TMA), polymerase chain reaction (PCR)
Disease(s)	Acute or chronic contagious liver disease
Specimen	**Preferred** - centrifuged serum in SST (serum separator tube without additives-tiger/marble top or yellow top); **2 mL minimum** **Also accepted -** Centrifuged and *separated* EDTA plasma; **2 mL minimum** **Note:** Collection of a separate tube for HCV testing is recommended
Storage/Transport	Store refrigerated or frozen; **indicate date shipped, and date frozen (if applicable) on Fairbanks Requisition Form.** Ship on frozen packs (preferred), or cold packs. *Ambient temperature shipping is not acceptable, and specimens will be rejected.*
Serology Results (EIA) Result Interpretation	*Non-Reactive*: No antibodies to HCV detected *Reactive*: Antibodies to HCV detected. Specimens with reactive antibody results automatically reflex to HCV viral load testing **Turnaround time for EIA results** 3-10 days
Viral Load Testing Results (TMA) Result Interpretation	*HCV RNA Qualitative* Detected/Not Detected *Log10 calculation* Value *IU/mL concentration* Value Notes: Linear range of assay is 10 to 100,000,000 IU/mL. If virus concentration is greater than 1000 IU/mL, the specimen will reflex to genotyping.
Genotyping Results (PCR) Result Interpretation	*HCV RNA Qualitative* Detected/Not Detected *Type 1, subtype 1a* Detected/Not Detected *Type 1, Subtype 1b* Detected/Not Detected *Type 2, Subtype 2a/c* Detected/Not Detected *Type 2, Subtype 2b* Detected/Not Detected *Type 3* Detected/Not Detected *Type 4* Detected/Not Detected *Type 5* Detected/Not Detected *Type 6* Detected/Not Detected **Turnaround time for viral load and genotyping** 7-21 days

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Herpes Simplex Virus (HSV)

Testing site Fairbanks Requisition Form	Alaska State Virology Laboratory (ASVL) – Fairbanks (907-371-1000)
Disease(s)	Herpes, Human Herpes virus 1 and 2
Organism(s)	Herpes Simplex Virus Type 1, Herpes Simplex Virus Type 2
CPT Code and Fee Info MOA	87529 (x2) *Fees charged for PCR testing only. To perform PCR testing, a memorandum of agreement (MOA) must be on file with the Alaska State Public Health Labs.*
Test Method(s)	**Serology (herpes simplex 1 and 2 antibody differentiation)** This is a multiplex immunoassay test used to determine immune status. Per reagent manufacturer: "*The performance of this assay has not been established for use in neonates, a pediatric population (through 18 years of age), and immune-compromised patients*." If the test is used in any of these populations, the results will include the above statement. **Multiplex polymerase chain reaction (PCR)** This is a molecular test used to identify and differentiate herpes simplex virus from skin swabs.
Serology	**Specimen:** Centrifuged serum in serum separator tube (SST without additives – tiger/marble top, or yellow top); **1 mL minimum** **Storage/Transport:** Store serum refrigerated or frozen, and ship on frozen packs. Ambient temperature shipping is not recommended per reagent manufacturer guidelines. Indicate date shipped, and date frozen (if applicable) on Fairbanks requisition. **Results:** *Negative*: No IgG antibodies specific to HSV-1 and/or HSV-2 detected. Presumed not to have had previous HSV-1 and/or HSV-2 infection. *Equivocal*: A borderline result. Obtain an additional specimen for retesting. *Positive*: IgG antibodies specific to HSV-1 and/or HSV-2 detected. A normal result is ***negative***.
PCR Request supplies	**Specimen:** Swab from mouth, genital, eye, throat swab, or skin. Swab the patient and place securely in 3mL Universal Transport Media (UTM, or other acceptable viral transport media). **Storage/Transport:** Store UTM containing the swab refrigerated or frozen, and ship on frozen packs. **Results:** *Target not detected*: No nucleic acid detected *Positive*: Nucleic acid detected A normal result is ***no nucleic acid detected***.
Turnaround Time	1-3 days

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Human Immunodeficiency Virus (HIV)

Testing site Fairbanks Requisition Form	Alaska State Virology Laboratory (ASVL) – Fairbanks (907-371-1000)
Disease(s)	HIV, AIDS (Acquired Immunodeficiency Syndrome)
Organism	Human Immunodeficiency Virus
Test Method	Testing algorithm follows current CDC guidelines for 4th generation HIV Ag/Ab Combo. *PLEASE NOTE: HIV testing cannot be performed on patients less than 2 years of age.* **Screening:** Multiplex Immunoassay, HIV Ag/Ab combination assay **Confirmation:** All reactive HIV screen results reflex to the Geenius HIV 1,2 Supplemental Assay. **Nucleic acid amplification testing (NAAT)**: Geenius confirmatory results that are inconclusive will be referred to a CDC reference lab for HIV-1 and/or HIV-2 NAAT.
Specimen	**Preferred** - centrifuged serum in SST (serum separator tube without additives-tiger/marble top or yellow top); **2 mL minimum** **Also accepted -** Centrifuged and *separated* EDTA plasma; **2 mL minimum**
Storage/Transport	Store refrigerated or frozen; **indicate date shipped and date frozen (if applicable) on Fairbanks Requisition Form.** Ship on frozen packs (preferred), or cold packs. **Note:** Specimens 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 colder prior to shipping. Specimens received frozen between 8 -14 days post collection will be tested and receive the following qualifying statement: *"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	HIV Ag/Ab Combo screen — Reactive/Nonreactive Confirmatory Testing — See interpretation of Geenius results HIV-1 and HIV-2 NAAT — Detected/Not detected A normal result is ***nonreactive*** or ***not detected***.
Turnaround Time	Screening and confirmation: 1-3 days after receipt at ASVL Reference lab testing (if needed): 1-2 weeks after receipt at reference lab

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Human metapneumovirus

See Respiratory Pathogen Panel (RPP)

Influenza virus

Testing site Fairbanks Requisition Form	Alaska State Virology Laboratory (ASVL) – Fairbanks (907-371-1000)
Diseases	Influenza A, Influenza B – positive specimens will be subtyped **Note: Testing for novel strains of Influenza (Flu A/H5N1, Flu A/H7N9) must be approved by the Section of Epidemiology.** **Business Hours: 907-269-8000; After Hours: 1-800-478-0084**
Test Method	Real-time reverse-transcriptase polymerase chain reaction (rtRT-PCR)
Specimen	**Preferred specimen: Nasopharyngeal swab*** Other acceptable specimens: Nasal swab*, nasal aspirate, tracheal aspirate, nasal wash, bronchioalveolar lavage, lung tissue, bronchial wash, dual nasopharyngeal/throat swabs*. **Swabs: use synthetic material swabs only (i.e. Dacron). Cotton or calcium-alginate tips and wooden or metal shafts are not acceptable.*
Collection Request supplies Nasopharyngeal Collection Instructions	**Collection materials are available upon request; click green button on left**: Swab: place swab into 3mL UTM and break swab **below** lid line Wash or lavage: aseptically transfer no more than 3mL of wash into 3mL UTM Lung tissue: transfer a pea sized piece (about 1 gram) into 3mL UTM Be sure the cap is twisted down completely. Place UTM inside the biohazard bag; place Lab Request in outer pocket
Storage Transport	Store the specimens in your refrigerator until ready to ship Pack specimens 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	**Target Not Detected:** Viral nucleic acid was not detected. **Positive:** Viral nucleic acid was detected. A normal result is ***not detected***.
Turnaround Time	1-3 days after receipt at ASVL

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Isopropanol

See Toxic Alcohols and Glycols

Lead (Blood)

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory - Anchorage (907-334-2100)
Test Method	Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)
Availability	**All clients upon consultation with Section of Epidemiology 907-269-8000.** **New Submitters, contact the ASPHL prior to submitting samples 907-334-2100.**
Specimen	**Screening**: Capillary Stick (250 µL) **Confirmation**: Venous blood
Specimen Collection	For Capillary, collect 250 µL in blood capillary tube. For Venous collect 2 mL non-SST K_2-EDTA preserved tube (Royal Blue, Tan or Lavender top tube)
Storage/Transport	Store refrigerated. Ship with cool packs or ambient.
Results Result Interpretation	A quantitative concentration will be reported.
Turnaround Time	7-14 days

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Measles (Rubeola) virus

Testing site Fairbanks Requisition Form	Alaska State Virology Laboratory (ASVL) – Fairbanks (907-371-1000)
Disease(s)	Measles, Rubeola
Organism	Rubeola Virus
CPT Code and Fee Info MOA	87798, *Fees charged for PCR testing only. To perform PCR testing, a memorandum of agreement (MOA) must be on file with the Alaska State Public Health Labs.*
Test Method(s)	**Serology (rubeola (measles) IgG antibody)** This is a multiplex immunoassay test used to determine immune status. Per reagent manufacturer: "*The performance of this assay has not been established for use in neonates, a pediatric population (through 18 years of age), and immune-compromised patients*." If the test is used in any of these populations, the results will include the above statement. **PCR (polymerase chain reaction to detect rubeola (measles) virus nucleic acid):** This is a molecular test used to determine the presence of the virus and therefore an active infection.
Serology	**Specimen**: Centrifuged serum in SST (serum separator tubes – tiger top, marble top or yellow top without additives); **1 mL minimum** **Storage/Transport:** Store serum refrigerated or frozen; indicate date frozen (if applicable) on requisition. Ship on frozen packs. *Ambient temperature shipping is not recommended per reagent manufacturer guidelines.* **Results***:* *Negative*: No IgG antibodies specific to rubeola (measles) detected. No indication of previous exposure to measles virus through infection or vaccination. *Equivocal:* Borderline result. Obtain an additional specimen for retesting. *Positive:* IgG antibody to rubeola (measles) detected. May indicate exposure to measles virus via infection or vaccination.
PCR Request supplies	**Specimen:** Rash onset date is required for submission. Specimens should be collected within 2 weeks of rash onset. Throat swabs* are preferred, nasopharyngeal swabs* are acceptable. For urine submissions, collect 20-100mL into a clean, sterile leak-proof container (not in UTM). Collect from the first part of the urine stream. The first morning void is ideal. **Swabs: use synthetic material swabs only (i.e. Dacron). Cotton or calcium-alginate tips and wooden or metal shafts are not acceptable. Swabs should be placed immediately in 3mL Universal Transport Media (UTM) following collection.* **Storage/Transport:** Store all specimens at 4°C. Ship inoculated UTM and/or urine to ASVL on cool packs (4°C). **Results**: *Not Detected*: Rubeola virus nucleic acid was not detected. *Detected*: Rubeola virus nucleic acid was detected. A normal result is ***not detected***.
Turnaround Time	1 - 3 days; PCR performed only on Tuesdays and Thursdays

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Metals – Urine

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory - Anchorage (907-334-2100)
Agents	Inorganic chemical elements in urine: Berylium, Cadmium, Cesium, Barium, Thallium, Lead, Uranium, Arsenic, Selenium and Mercury
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 urine tube or leak proof screw-capped plastic specimen transport cup/tube. 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

Methanol

See Toxic Alcohols and Glycols

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Middle East Respiratory Syndrome Coronavirus (MERS-CoV)

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory - Anchorage (907-334-2100)
Test Method	PCR
Availability	**All clients must consult with Section of Epidemiology 907-269-8000 during business hours or 1-800-478-0084 during non-business hours.** **Contact ASPHL Biothreat Team prior to submitting samples at 1-855-222-0957.**
Specimen	Respiratory Specimens: Nasopharyngeal and/or Oropharyngeal swabs, Sputum, Lower respiratory tract aspirates/washes; Serum
Storage/ Transport	Store refrigerated and ship with cool packs within 72 hours. >72 hours, store and ship frozen. Package and label as Biological Substance, Category B, ship as quickly as possible.
Results	Negative Presumptive Positive, sent to CDC for confirmation Equivocal, sent to CDC Inconclusive, inadequate specimen, recollect A normal result is ***negative***.
Turnaround Time	2 days

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Mumps virus

Testing site Fairbanks Requisition Form	Alaska State Virology Laboratory (ASVL) – Fairbanks (907-371-1000)
Disease(s)	Mumps, Orchitis
Organism	Mumps virus
CPT Code and Fee Info MOA	87798, *Fees charged for PCR testing only. To perform PCR testing, a memorandum of agreement (MOA) must be on file with the Alaska State Public Health Labs.*
Test Methods	**Serology (mumps IgG antibody)** This is a multiplex immunoassay test used to determine immune status. Per reagent manufacturer: "*The performance of this assay has not been established for use in neonates, a pediatric population (through 18 years of age), and immune-compromised patients*." If the test is used in any of these populations, the results will include the above statement. **PCR (polymerase chain reaction to detect mumps virus nucleic acid)** This is a molecular test used to determine the presence of the virus and therefore an active infection.
Serology	**Specimen:** Centrifuged serum in SST (serum separator tubes – tiger top, marble top or yellow top without additives); **1 mL minimum** **Storage/Transport:** Store serum refrigerated or frozen; indicate date frozen (if applicable) on Fairbanks Requisition Form. Ship on frozen packs. *Ambient temperature shipping is not recommended per reagent manufacturer guidelines.* **Results** *Negative:* No IgG antibodies specific to mumps virus detected. Presumed not to have had previous exposure to mumps virus through infection or vaccination. *Equivocal:* A borderline result. Obtain an additional specimen for retesting. *Positive:* IgG antibody to mumps virus detected. May indicate exposure to mumps via infection or vaccination.
PCR Request supplies Buccal Swab Collection Instructions	**Specimen:** Collect as soon as mumps is suspected. Buccal swabs* are preferred, in Universal Transport Media (UTM) or other acceptable ***liquid*** viral transport media. Throat swabs* and urine are also acceptable. For urine, collect 50-100mL in a clean, sterile leak-proof container (no UTM). Urine specimens must be accompanied by a buccal or throat swab. **Swabs: use synthetic material swabs only (i.e. Dacron). Cotton or calcium-alginate tips and wooden or metal shafts are not acceptable. Place swabs immediately in 3mL UTM.* **Storage/Transport**: Ship inoculated UTM and/or urine to ASVL on cool packs (4^{o}C). **Results** *Not Detected*: Mumps virus nucleic acid was not detected. *Detected*: Mumps virus nucleic acid was detected. A normal result is ***not detected***
Turnaround Time	1 – 3 days; PCR performed only on Tuesdays and Thursdays

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Mycobacterium Culture (Tuberculosis, TB)

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory – Anchorage (907-334-2100)
Disease(s)	Tuberculosis (TB)
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 NAAT. See TB NAAT Information Sheet for instructions on requesting testing.
Specimen Collection TB specimen collection instructions Sputum collection instructions	Sputum, bronchial wash, urine, stool, CSF, gastric lavage, blood, bone, bone marrow, tissue, body fluids and exudates. **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.
Storage/Transport	Store refrigerated (except for blood). 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.**
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* A normal result is ***no AFB observed.*** **Turnaround time**: within 24 hours
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 or Reference Lab A normal result is **No *Mycobacterium* species, including *M. tuberculosis*, isolated**. **Turnaround times:** **Preliminary results:** 3 weeks **Negative Culture:** 6 weeks (minimum) **Positive Culture:** As detected and confirmed
TB NAAT Result TB NAAT Result Interpretation	*Nucleic Acid Detected/Not Detected* A normal result is ***nucleic acid not detected***. **Turnaround time:** GeneXpert®- within 24 hours; TB PCR- within 72 hours
Susceptibility Result	Performed on *M. tuberculosis* complex only. First line drugs: Isoniazid, Rifampin, Ethambutol, and PZA (Panel also includes Levofloxacin) *Susceptible/Resistant* A normal result is ***susceptible***. **Turnaround time:** 1 to 2 weeks from identification

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Neisseria gonorrhoeae culture

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory - Anchorage (907-334-2100)
Disease(s)	Gonorrhea
Organism(s)	*Neisseria gonorrhoeae*
Test Method	Culture, DNA Probe, Beta-lactamase susceptibility
Specimen	Throat or rectal swab Pure Isolate submitted on Chocolate Slant Amies Transport Media with Charcoal
Specimen Collection	Specimens or isolates may be submitted on chocolate slants. Specimens may be collected using the InTray System or similar. Follow manufacturer instructions for incubation prior to sending.
Storage/ Transport	Ambient temperature Package and label as Biological Substance, Category B
Results	*Neisseria gonorrhoeae* Isolated/Not Isolated Beta-lactamase Negative/Positive A normal result is ***not isolated*** or ***negative***.
Turnaround Time	1-3 days
Notes	A laboratory that isolates *N. gonorrhoeae* must submit an isolate or an aliquot of the original specimen to ASPHL.

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Neisseria meningitidis culture

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory - Anchorage (907-334-2100)
Disease(s)	Meningitis
Organism(s)	*Neisseria meningitidis*
Test Method	Culture
Specimen	Pure isolate
Storage/ Transport	Ambient temperature
Results	*Neisseria meningitidis* Isolated/Not Isolated A normal result is ***not isolated***.
Turnaround Time	2-4 days
Notes	A laboratory that isolates *N. meningitidis* must submit an isolate or an aliquot of the original specimen to ASPHL. Samples from sterile sites can be sent directly to CDC Arctic Investigations (AIP). Samples are shared between the two labs. Contact AIP for further information at 907-729-3200.

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Norovirus

Testing site Fairbanks Requisition Form	Alaska State Virology Laboratory (ASVL) – Fairbanks (907-371-1000)
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 Norovirus collection instructions	Collect at least 5 mL of raw stool, vomit, or emesis in sterile container. (Specimens must NOT be submitted in UTM).
Storage/Transport	Store refrigerated. Ship with cool packs.
Results	Norovirus Positive (Genogroup I or II) / Target Not Detected A normal result is ***not detected***.
Turnaround Time	2–7 days

Novel Coronavirus 2012

See: Middle East Respiratory Syndrome Coronavirus (MERS-CoV)

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Orthopox Viruses

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory - Anchorage (907-334-2100)
Disease(s)	Pustular or vesicular rash illness
Organism(s)	Variola, Vaccinia (cow pox), orthopox viruses (mpox, camelpox, ectromelia, and gerbilpox).
Availability	**All clients must consult with Section of Epidemiology 907-269-8000 during business hours or 1-800-478-0084 during non-business hours.** **Contact ASPHL Biothreat Team prior to submitting samples at 1-855-222-0957.** **For suspect mpox cases, it is not required to make contact with State partners. Please submit specimens according to the specific mpox guidance below.**
Specimen Mpox Guidance	**Do NOT collect any specimens, unless suspecting mpox (see guidance).** 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 A normal result is ***not detected***.
Turnaround Time	2 days

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Ova & Parasite Exam

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory - Anchorage (907-334-2100)
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)	Protozoan and Metazoan parasites **Trichinella* spp., *Leishmania* spp. by referral*
Test Method	Formalin ethyl-acetate concentration wet mount and Zinc-PVA Trichrome Stain Examination Giardia/Cryptosporidium DFA
Special Conditions	Submit three samples 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 Request supplies	**Stool:** Collect stool in clean, dry container. Add stool (walnut size formed stool or ≈5 mL of liquid) to **10% Formalin** vial (yellow top) and **Zn PVA** vial (blue top) **to red fill line only**. Do not overfill. **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 Package and label as Biological Substance, Category B
Results	No parasites observed Parasite observed (genus and species) A normal result is ***no parasites observed***.
Turnaround Time	3-5 working days from date of receipt in laboratory

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Pinworm Exam

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory - Anchorage (907-334-2100)
Disease(s)	Pinworm
Organism(s)	*Enterobius vermicularis*
Test Method	Microscopic Examination
Specimen Collection	Collect sample first thing in the morning. Press the sticky side of the paddle firmly several times against the right and left perianal folds. Return paddle to transport vial, secure cap and label.
Storage/Transport	Ambient temperature Package and label as Biological Substance, Category B
Results	Pinworm (*Enterobius vermicularis*) Observed/Not Observed A normal result is ***not observed***.
Turnaround Time	1-2 days

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Plesiomonas shigelloides

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory - Anchorage (907-334-2100)
Disease(s)	Bacterial gastroenteritis
Organism(s)	*Plesiomonas shigelloides*
Test Method	Culture
Specimen Request supplies	Stool in ETM (see Enteric Stool Culture) Pure isolate submitted on Cary Blair Swab, or Bacterial Transport Media
Special Conditions	Specimen should not be contaminated with water, urine, barium, antibiotics, or mineral oil.
Specimen Collection	Collect stool in clean dry container or on plastic wrap stretched across toilet. **Sample must be placed into ETM within one hour of sample collection**. Carefully open ETM, use scoop mounted in lid to place approximately a walnut size amount of stool into 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	*Plesiomonas shigelloides* Isolated/Not Isolated A normal result is ***not isolated***.
Turnaround Time	2-7 days

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Rabies

Testing site Fairbanks Rabies Investigation Form	Alaska State Virology Laboratory (ASVL) – Fairbanks (907-371-1000)
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. The laboratory can be contacted after hours at 855-371-1001 option #6.** Testing for human rabies is available from CDC with approval from Section of Epidemiology.
Specimen Collection & Shipping Instructions for Rabies Specimen Submission Rabies Shipping Label	Wear PPE when processing specimens. No living animal will be accepted for rabies testing. For small animals, ship the entire carcass. For large animals, ship only the intact head of the animal. Refer to instructions for rabies specimen submission (click button on the left) for thorough description of specimen collection and shipping requirements. Be sure to include the Fairbanks Rabies Investigation Form with each specimen and adhere the rabies shipping label provided to the outside of the shipping container.
Results	Rabies Virus Positive/Negative A normal result is ***negative***.
Turnaround Time	1-4 days

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Reference Bacterial Culture

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory - Anchorage (907-334-2100)
Test Method	Culture and identification
Special Conditions	**If referring potential bioterrorism agent specimen for testing, please contact the Alaska State Public Health Laboratory – Anchorage (907-334-2100).**
Specimen Request supplies	Pure Isolate submitted on Cary Blair Swab, or Bacterial Transport Media
Storage/Transport	Ambient temperature Package and label as Biological Substance, Category B.
Results	Organism identified (genus and species)
Turnaround Time	7-10 days
Notes Reportable Conditions to Public Health in Alaska	Follow link for further information on submission of isolates to ASPHL: https://health.alaska.gov/dph/Epi/Pages/pubs/conditions/default.aspx

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Respiratory Pathogen Panel (RPP)

Testing site Fairbanks Requisition Form	Alaska State Virology Laboratory (ASVL) – Fairbanks (907-371-1000)
Test Method	Multiplex PCR (CPT code 87633)
CPT Code and Fee Info MOA	87633, *To receive RPP results, a memorandum of agreement (MOA) must be on file with the Alaska State Public Health Labs.*
Targets – Luminex NxTag® RPP Assay	Respiratory Syncytial Virus (Groups A & B), rhinovirus/enterovirus (cannot differentiate), parainfluenza (Types 1, 2, 3, and 4), human metapneumovirus, adenovirus, seasonal coronavirus (HKU1, NL63, 229E, OC43), human bocavirus, *Chlamydophila pneumoniae, and Mycoplasma pneumoniae*
Specimen Request supplies Nasopharyngeal Collection Instructions	**Preferred specimen: Nasopharyngeal swab*, in 3mL Universal Transport Media (UTM) or other acceptable liquid viral transport media.** Other acceptable specimens: Nasal swab*, nasal wash, tracheal aspirate, nasal aspirate, broncheoalveolar lavage, lung tissue, bronchial wash. **Swabs: use synthetic material swabs only – cotton or calcium-alginate tips and wooden or metal shafts are not acceptable*
Collection	Swab: place swab into 3mL UTM and break swab **below** lid line Wash or lavage: aseptically transfer no more than 3 mL of wash to 3mL UTM Lung tissue: transfer a pea sized piece (about 1 gram) into 3mL UTM
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 target)	**Target Not Detected:** Nucleic acid was not detected **Positive:** Nucleic acid was detected A normal result is ***not detected***.
Turnaround Time	Due to limited staff, test is performed on Mondays only.

Rhinovirus

See Respiratory Pathogen Panel (RPP)

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Ricin

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory - Anchorage (907-334-2100)
Disease(s)	Ricin poisoning
Agent	Toxin from *Ricinus communis* (castor bean plant)
Availability	**All clients must consult with Section of Epidemiology 907-269-8000 during business hours or 1-800-478-0084 during non-business hours.** **Contact ASPHL Biothreat Team prior to submitting samples at 1-855-222-0957.**
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 A normal result is ***not detected***.
Turnaround Time	2-4 days

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Ricinine

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory - Anchorage (907-334-2100)
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.

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Respiratory Syncytial Virus (RSV)

Testing site Fairbanks Requisition Form	Alaska State Virology Laboratory (ASVL) – Fairbanks (907-371-1000)
Diseases	Respiratory Syncytial Virus
Test Method	PCR, see also See Respiratory Pathogen Panel (RPP)
Specimen	**Preferred specimen: Nasopharyngeal swab*, in 3mL Universal Transport Media (UTM) or other acceptable liquid viral transport media.** Other acceptable specimens: Nasal swab*, nasal wash, tracheal aspirate, nasal aspirate, broncheoalveolar lavage, lung tissue, bronchial wash. **Swabs: use synthetic material swabs only – cotton or calcium-alginate tips and wooden or metal shafts are not acceptable*
Collection Request supplies Nasopharyngeal Collection Instructions	Swab: place swab into 3mL UTM and break swab **below** lid line Wash or lavage: aseptically transfer no more than 3 mL of wash to 3mL UTM Lung tissue: transfer a pea sized piece (about 1 gram) into 3mL UTM
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. A normal result is ***not detected***.
Turnaround Time	1-7 days after receipt at ASVL

RPR (Rapid Plasma Reagin)

See Syphilis Screen – Rapid Plasma Reagin (RPR)

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Rubella

Testing site Fairbanks Requisition Form	Alaska State Virology Laboratory (ASVL) – Fairbanks (907-371-1000)
Disease(s)	Rubella, German measles, Congenital Rubella Syndrome.
Organism(s)	Rubella Virus
Test Method	**Serology (rubella IgG antibody)** This is a multiplex immunoassay test used to determine immune status. Per reagent manufacturer: "*The performance of this assay has not been established for use in neonates, a pediatric population (through 18 years of age), and immune-compromised patients*." If the test is used in any of these populations, the results will include the above statement. **PCR (polymerase chain reaction to detect rubella virus nucleic acid)** This is a molecular test used to determine the presence of the virus and therefore an active infection. Testing is performed at a CDC contract lab.
Serology	**Specimen:** Centrifuged serum in SST (serum separator tubes – tiger top, marble top or yellow top without additives); **1 mL minimum** **Storage/Transport:** Store serum refrigerated or frozen; indicate date frozen (if applicable) on Fairbanks Requisition Form. Ship on frozen packs. *Ambient temperature shipping is not recommended per reagent manufacturer guidelines.* **Results** *Negative:* No IgG antibodies specific to rubella detected. Presumed not to have had previous exposure to rubella virus through infection or vaccination. *Equivoca*l: A borderline result. Obtain an additional specimen for retesting. *Positive:* IgG antibody to rubella detected. IgG antibody levels are at a level considered to indicate positive immunity. **Turnaround Time** 1 -3 days
PCR Request supplies	**Specimen:** Throat swab*, nasopharyngeal swab* **Swabs: use synthetic material swabs only – cotton or calcium-alginate tips and wooden or metal shafts are not acceptable)* **Storage/Transport:** Ship inoculated UTM to ASVL on cool packs (4°C). ASVL will overnight the specimen to the CDC Contract Lab. **Results** *Not Detected*: Rubella virus nucleic acid was not detected. *Detected*: Rubella virus nucleic acid was detected. A normal result is ***not detected***. **Turnaround Time** 2 days from date of receipt at CDC Contract Lab.

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Salmonella serotyping

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory – Anchorage (907-334-2100)
Disease(s)	Salmonellosis
Organism(s)	*Salmonella* species
Test Method	Culture and Serotyping
Specimen Request supplies	Pure Isolate submitted on Cary Blair Swab, or Bacterial Transport Media Stool in ETM (see Enteric Stool Culture)
Storage/Transport	Ambient temperature Package and label as Biological Substance, Category B
Results	*Salmonella* serotype
Turnaround Time	2-7 days
Notes	A laboratory that isolates *Salmonella* must submit an isolate or an aliquot of the original specimen to ASPHL.

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Shigatoxin testing (STEC)

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory – Anchorage (907-334-2100)
Disease(s)	Hemolytic Uremic Syndrome (HUS), bloody stool
Organism(s)	Shigatoxin (I,II) producing *Escherichia coli* (STEC), *E. coli* O157, Enterohemorragic *E. coli* (EHEC)
Test Method	EIA (Alere Shiga Toxin Quik Chek)
Specimen Request supplies	Stool in ETM (see Enteric Stool Culture) GN Broth (Gram negative/MacConkey's broth) Pure Isolate submitted on Cary Blair Swab, or Bacterial Transport Media
Storage/Transport	Ambient Temperature for Stool in ETM (see Enteric Stool Culture) or Isolate Swab. Package with ice packs if submitting a GN Broth. Package and label as Biological Substance, Category B
Results	Shigatoxin I Positive/Negative Shigatoxin II Positive/Negative A normal result is ***negative***.
Turnaround Time	5 days
Notes	A laboratory that isolates *E. coli* O157 or any Shigatoxin producing *E. coli* must submit an isolate or an aliquot of the original specimen to ASPHL.

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Shigella Serotyping

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory – Anchorage (907-334-2100)
Disease(s)	Shigellosis
Organism(s)	*Shigella* species
Test Method	Culture and Serotyping
Specimen Request supplies	Pure Isolate submitted on Cary Blair Swab, or Bacterial Transport Media 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 A normal result is ***no species isolated***.
Turnaround	2-4 days
Notes	A laboratory that isolates *Shigella* must submit an isolate or an aliquot of the original specimen to ASPHL.

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Streptococcus Isolates

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory – Anchorage (907-334-2100)
Disease(s)	Various
Organism(s)	*S. pyogenes*, *S. agalactiae*, *S. pneumoniae*
Specimen	Pure isolate
Storage/Transport	Ambient temperature Package and label as Biological Substance, Category B
Notes	A laboratory that isolates *S. agalactiae, S. pneumoniae* or *S. pyogenes* must submit an isolate or an aliquot of the original specimen to ASPHL. Samples from sterile sites can be sent directly to CDC Arctic Investigations (AIP). Samples are shared between the two labs. Contact AIP for further information at 907-729-3200.

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Syphilis Screen – Rapid Plasma Reagin (RPR)

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory – Anchorage (907-334-2100)
Disease(s)	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. Package and label as Biological Substance, Category B 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 A normal result is ***nonreactive***. FTA-ABS automatically performed on all Reactive RPR's unless FTA-ABS previously positive at ASPHL.
Turnaround Time	1-2 days

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Toxic Alcohols & Ethylene Glycol

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory – Anchorage (907-334-2100)
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 7 days a week between 6:00 AM and 10:00 PM 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 Result Interpretation	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 can provide follow-up toxicology assistance.
Turnaround Time	Test panel is complete 2-3 hours from receipt of sample.

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Trichomonas (NAAT)

Testing Lab Anchorage Requisition Form	Alaska State Public Health Laboratory - Anchorage (907-334-2100)
Disease(s)	Trichomonas, Trichomoniasis
Organism(s)	*Trichomonas vaginalis* (TV)
Test Method	Nucleic Acid Amplification (NAAT). Transcription Mediated Amplification (TMA) for the detection of ribosomal RNA (rRNA) from *Trichomonas vaginalis*.
CPT Code & Fee Info MOA	87660, *To perform NAAT testing, a memorandum of agreement (MOA) must be on file with the Alaska State Public Health Labs.*
Specimen	**Female:** Urine, vaginal, endocervical **Male:** Urine ONLY
Specimen Collection Request supplies	Hologic APTIMA Collection Kits: Urine Collection Kit (yellow tube) • First catch urine of initial urine stream; must be added to transport within 24 hours of collection. Multitest Swab Collection Kit (orange tube) • Used for Vaginal specimens. • Follow instruction provided in kit. Unisex Swab Collection Kit (white tube) • 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 A normal result is ***negative***. Therapeutic failure or success cannot be determined with the APTIMA Combo 2 Assay since the nucleic acid may persist following appropriate antimicrobial therapy.
Turnaround Time	5 days

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Varicella Zoster Virus

Testing site Fairbanks Requisition Form	Alaska State Virology Laboratory (ASVL) – Fairbanks (907-371-1000)
Disease(s)	Chickenpox, Herpes Zoster, Varicella, Shingles
Organism(s)	Varicella-Zoster Virus (VZV)
Test Method	**Serology (VZV IgG antibody)** This is a multiplex immunoassay test used to determine immune status. Per reagent manufacturer: "*The performance of this assay has not been established for use in neonates, a pediatric population (through 18 years of age), and immune-compromised patients*." If the test is used in any of these populations, the results will include the above statement. **PCR (polymerase chain reaction to detect VZV nucleic acid)** This is a molecular test used to determine the presence of the virus and therefore an active infection. Testing is performed at a CDC contract lab.
Serology	**Specimen:** Centrifuged serum in SST (serum separator tubes – tiger top, marble top or yellow top without additives); **1 mL minimum** **Storage/Transport:** Store serum refrigerated or frozen; indicate date frozen (if applicable) on Fairbanks Requisition Form. Ship on frozen packs. *Ambient temperature shipping is not recommended per reagent manufacturer guidelines.* **Results:** *Negative*: No IgG antibodies specific to VZV detected. Presumed not to have had previous exposure to VZV through infection or vaccination. *Equivocal:* A borderline result. Obtain an additional specimen for retesting. *Positive:* IgG antibody to VZV detected. May indicated exposure to VZV via infection or vaccination. A normal result is ***positive***. **Turnaround Time:** 1-3 days after receipt at ASVL
PCR Request supplies	**Specimen:** Scabs and/or vesicular lesion swabs* in a dry, sterile container. *Do **not** place scabs or swabs for VZV into liquid transport media, like UTM. Swabs should be kept dry, in a clean container. Skin lesion swabs 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 not acceptable).* **Storage/Transport** Ship specimens to ASVL at ambient temperature. ASVL will ship the specimen immediately to the CDC contract laboratory. **Results:** *Not Detected*: VZV nucleic acid was not detected. *Detected*: VZV nucleic acid was detected. A normal result is ***not detected***. **Turnaround Time:** 2 days from date of receipt at CDC Contract Lab.

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Vibrio species

Testing Site Anchorage Requisition Form	Alaska State Public Health Laboratory – Anchorage (907-334-2100)
Disease(s)	Rice water diarrhea, gastroenteritis
Organism(s)	*Vibrio* species
Test Method	Culture and Serotyping
Specimen	Stool in ETM (see Enteric Stool Culture) Pure Isolate submitted on Cary Blair Swab, or Bacterial Transport Media
Special Conditions	Specimen should not be contaminated with water, urine, barium, antibiotics, or mineral oil.
Specimen Collection Request supplies	Collect stool in clean dry container or on plastic wrap stretched across toilet. **Sample must be placed into ETM within one hour of sample collection**. Carefully open ETM, use scoop mounted in lid to place approximately a walnut size amount of stool into 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* (genus and species) Isolated/Not Isolated A normal result is ***not isolated***.
Turnaround Time	2-7 days
Notes	A laboratory that isolates *Vibrio* must submit an isolate or an aliquot of the original specimen to ASPHL.

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Whole Genome Sequencing (WGS)

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory - Anchorage (907-334-2100)
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	Whole Genome Sequencing
Specimen	Pure culture isolates
Special Conditions	Used for epidemiological investigation and surveillance of disease outbreaks.
Storage/Transport	Ambient temperature Package and label as Biological Substance, Category B
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	5-10 days

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Yersinia enterocolitica

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory – Anchorage (907-334-2100)
Disease(s)	Gastroenteritis
Organism(s)	*Yersinia* species
Test Method	Culture
Specimen	Stool in ETM (see Enteric Stool Culture) Pure Isolate submitted on Cary Blair Swab, or Bacterial Transport Media
Special Conditions	Specimen should not be contaminated with water, urine, barium, antibiotics, or mineral oil.
Specimen Collection Request supplies	Collect stool in clean dry container or on plastic wrap stretched across toilet. **Sample must be placed into ETM within one hour of sample collection**. 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* (genus and species) Isolated/Not Isolated A normal result is ***not isolated***.
Turnaround Time	2-7 days
Notes	A laboratory that isolates *Yersinia* must submit an isolate or an aliquot of the original specimen to ASPHL.

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Yersinia pestis

Testing site Anchorage Requisition Form	Alaska State Public Health Laboratory – Anchorage (907-334-2100)
Disease(s)	Plague; disease forms: Bubonic, pneumonic, or septicemic.
Organism(s)	*Yersinia pestis*
Availability	**All clients must consult with Section of Epidemiology 907-269-8000 during business hours or 1-800-478-0084 during non-business hours.** **Contact ASPHL Biothreat Team prior to submitting samples at 1-855-222-0957.**
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 (https://www.asm.org/Articles/Policy/Laboratory-Response-Network-(LRN)-Sentinel-Level-C). 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 A normal result is ***not detected***.
Turnaround Time	3-5 days

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Collecting Specimens for Botulism Testing

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 or 1-800-478-0084 after business hours) 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**
  Collect stool as soon as possible. Package without transport media. Ten grams is about the size of a walnut.

- **Gastric Contents, 20 mL minimum**
  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
- ✓ Pack as Biological Substance, Category B according to IATA and DOT 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.

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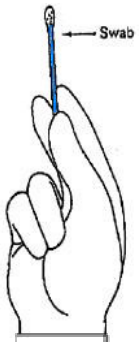
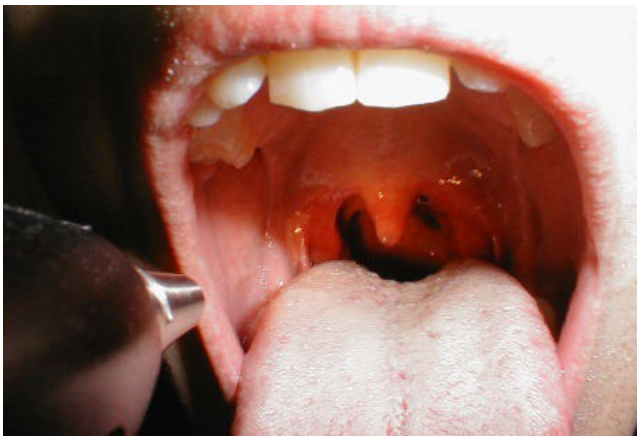
Collecting Chlamydia & Gonorrhea Pharyngeal Swab

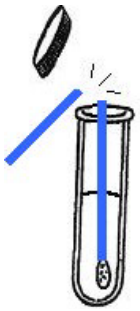
STEP 1
Open UNISEX kit (white) and remove tube and package with green writing. Remove the swab with the **BLUE** shaft. **USE BLUE SHAFT SWAB ONLY**.



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.

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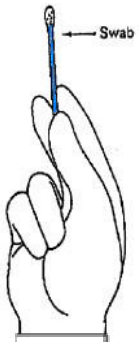
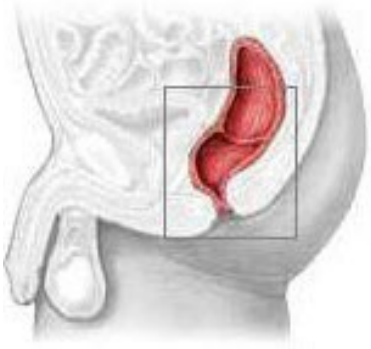
Collecting Rectal Swabs for Chlamydia & Gonorrhea

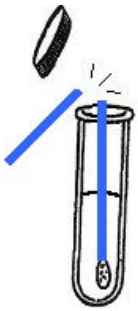
STEP 1
Open UNISEX kit (white) and remove tube and package with green writing. Remove the swab with the **BLUE** shaft. **USE BLUE SHAFT SWAB ONLY**.



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.

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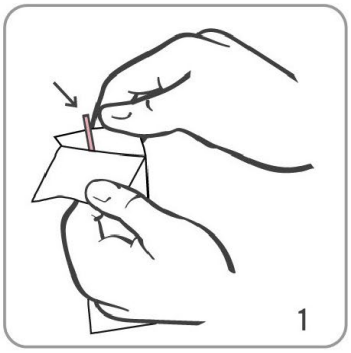
Collecting Vaginal Swabs for Chlamydia & Gonorrhea (for patients)

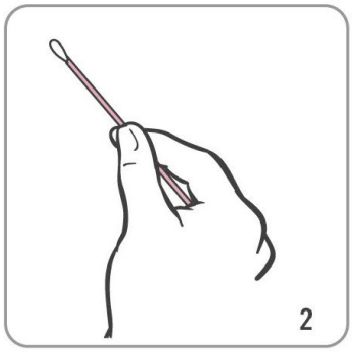
Note: If you have any questions about this procedure, please ask your care- provider.

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.



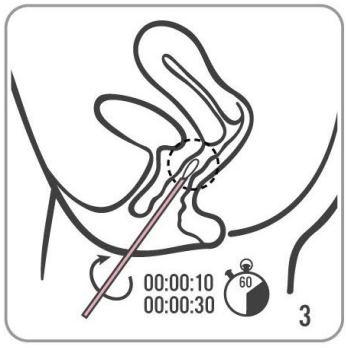
❶

Partially peel open and remove the swab.



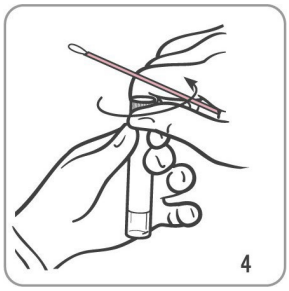
❷

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



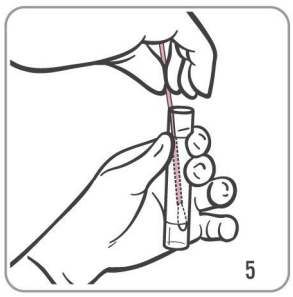
❸

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.



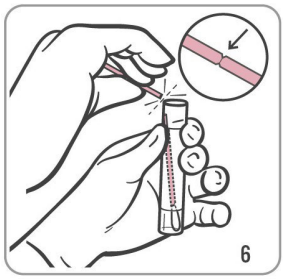
❹

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.

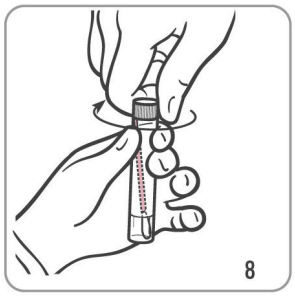


❻

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.

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Viral Hepatitis Serology Result Interpretation

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

Potential Outcomes	Hepatitis A Total Antibody	Hepatitis A IgM	Interpretation
Scenario 1	Total HAV Antibody is Non-Reactive		Then, the patient has no immunity
Scenario 2	Total HAV Antibody is Reactive	IgM is Non-Reactive	Then, the patient has immunity via HAV exposure or immunization
Scenario 3	Total HAV Antibody is Reactive	IgM is Reactive	Then, the patient has an acute HAV infection or recent immunization

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Viral Hepatitis Serology Result Interpretation

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 B

Potential Outcomes	Hepatitis B core antibody	Hepatitis B surface antibody	Hepatitis B surface antigen	Hepatitis B core antibody IgM	Interpretation
Scenario 1	If Hepatitis B core antibody is Non-Reactive				Then, the patient has had no prior HBV infection
Scenario 2	If Hepatitis B core antibody is Non-Reactive	Hepatitis B surface antibody is Non-Reactive			Then, the patient has no immunity
Scenario 3	If Hepatitis B core antibody is Non-Reactive	Hepatitis B surface antibody is Reactive			Then, the patient is Immune via vaccination Titer >10mIU/mL
Scenario 4	If Hepatitis B core antibody is Reactive	Hepatitis B surface antibody is Reactive	Hepatitis B surface antigen is Non-Reactive		Then, the patient is immune via prior resolved infection
Scenario 5	If Hepatitis B core antibody is Reactive	Hepatitis B surface antibody is Non-Reactive	Hepatitis B surface antigen is Non-Reactive		Then, the patient is in a convalescent window, or loss of HBsAb from resolved infection, or possible low grade chronic* infection
Scenario 6	If Hepatitis B core antibody is Non-Reactive	Hepatitis B surface antibody is Non-Reactive	Hepatitis B surface antigen is Reactive		Then, the patient has an early infection
Scenario 7	If Hepatitis B core antibody is Reactive	Hepatitis B surface antibody is Non-Reactive	Hepatitis B surface antigen is Reactive	Hepatitis B core antibody IgM is Reactive	Then, the patient has an acute HBV infection
Scenario 8	If Hepatitis B core antibody is Reactive	Hepatitis B surface antibody is Non-Reactive	Hepatitis B surface antigen is Reactive	Hepatitis B core antibody IgM is Non-Reactive	Then, the patient has a chronic HBV infection. HBV infection is considered chronic when HBsAg remains reactive for six months or longer.
Scenario 9	If Hepatitis B core antibody is Reactive	Hepatitis B surface antibody is Reactive	Hepatitis B surface antigen is Reactive	Hepatitis B core antibody IgM is Reactive or Non-reactive	Then, the patient is resolving an infection

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Hepatitis C Viral Load—Interpretation of Results

IU/mL	Log_{10} Value	Analytical Interpretation	Clinical Interpretation
Not Detected	Not Detected	HCV RNA not detected	No Current HCV Infection. Follow-up testing is recommended as per national HCV guidelines for viral load assessment, and no further testing is recommended for diagnosis of HCV.
< 10 Detected	<1.00	HCV RNA detected but not quantified. HCV RNA concentration is below the Lower Limit of Quantification (LLoQ) of the assay	Follow-up testing is recommended as per national HCV guidelines for viral load assessment, and results must be interpreted within context of all relevant clinical and laboratory findings for diagnosis HCV.
10 to 25	1.00 to 1.40	HCV RNA detected and quantified. HCV RNA concentration is within linear range of the assay ≥ 10 IU/mL and < 25 IU/mL	Provide guidance for treatment and care based on current national HCV treatment guidelines for diagnosis of HCV and viral load assessment.
25 to 100,000,000	1.40 to 8.00	HCV RNA detected and quantified. HCV RNA concentration is within the linear range of 25 to 100,000,000 IU/mL.	Current HCV Infection. Provide guidance for treatment and care based on current national HCV treatment guidelines for diagnosis and viral load assessment of HCV.
>100,000,000	>8.00	HCV RNA is detected above the Upper Limit of Quantification (ULoQ).	Provide guidance for treatment and care based on current national HCV treatment guidelines.

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Hepatitis C Genotype Result Interpretation

HCV RNA, Qualitative	HCV Genotype	Interpretation
Detected	Type 1, Subtype 1a	Valid Genotype Result
	Type 1, Subtype 1b	
	Type 2, Subtype 2a/c	
	Type 2, Subtype 2b	
	Type 3	
	Type 4	
	Type 5	
	Type 6	
	Any one or combination of types may be obtained	
Detected	Unable to Genotype	Unable to determine HCV Genotype. Possible causes include but are not limited to: Specimen contamination or degradation; poor recovery or amplification of extracted specimen; transient low viremia of HCV infection; a novel or partial genotype/subtype pattern is detected. A new specimen is recommended.

HCV Genotyping has been performed using the GenMark eSensor HCVg Direct Test Assay. This test has not been cleared or approved by the FDA. The performance characteristics for detecting mixed infections have not been established by the manufacturer. This assay, however, has been validated by the Alaska State Virology Laboratory using good laboratory practices, and detection of multiple targets was demonstrated.

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Collecting Specimens for Norovirus Testing

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:

If shipping with third party vendors (FedEx, UPS, Goldstreak, etc.)	*If using USPS:*
Alaska State Virology Laboratory - Fairbanks 1051 Sheenjek Drive Fairbanks, AK 99775 (907) 371-1000	**Alaska State Virology Laboratory - Fairbanks** PO Box 60260 Fairbanks, AK 99706 (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.

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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.

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Rabies Specimen Submission Instructions (continued):

- 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:
https://health.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
1051 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.
  Please contact ASVL if you have any questions about rabies testing.

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Collecting Stools for Culture and Parasitology

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 clean, dry container. You can 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.
   - Use the spoon attached to the lid and collect small amounts of stool from all areas, capturing areas that are slimy, bloody or watery. 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 or mix up the vial lids.
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.

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Specimen Collection for Tuberculosis Testing

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

Sample Type	Instruction
Sputum	Collect early morning specimens from a deep productive cough on three consecutive days, before the patient eats, drinks or takes medication. Use a separate collection tube for each day. Have the patient rinse their mouth out with water prior to collection. Collect **5-10 mL** sputum in sterile 50 mL screw capped tubes containing sodium carbonate preservative.
Blood	10 mL of blood collected in SPS (yellow top) Isolator microbial tube. Store at room temperature.
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	Submit 5 mL in sterile container. Avoid contaminating bronchoscope with tap water.
Bronchial Brush/Brushing	Submit in sterile container with sterile saline.
Body Fluids (Pleural, peritoneal, synovial, pericardial, etc.)	Submit 10-15 mL in sterile 50 mL conical tubes. Add sterile anticoagulant (SPS or heparin) to body fluids if necessary. **Do not** use preservatives.
CSF	Submit 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, urine specimens on three consecutive days. Submit 40-50 mL of urine in a sterile 50 mL sterile crew capped conical tube.

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Collecting Sputum for Tuberculosis Testing

Why do I need a sputum sample?

- 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 your lungs. Sputum is different than saliva (spit). Sputum comes from your lungs and is usually thick; saliva (spit) comes from your mouth and is thin and watery.
- Sputum should be collected as soon as you wake up in the morning. The laboratory needs at least 5 mL of sputum.

How to Collect a Sputum Sample

Your clinician will give you a special sputum collection tube.

1. The TB sputum collection tube must not be opened until you are ready to use it. Do not remove sodium carbonate preservative (white powder) from the collection tube.
2. As soon as you wake up in the morning, before you eat or drink, rinse your mouth out with WATER. Do not use mouthwash.
3. Take a deep breath and hold it for 5 seconds. Breathe out slowly. Take another deep breath and cough hard until some sputum comes up.
4. Cough up the sputum into the sputum collection tube.
5. Keep doing this until the sputum reaches the 5 mL line on the collection tube, if you can.
6. Screw the orange cap on the tube tightly so it doesn't leak.
7. Wash and dry the outside of the sputum collection tube.
8. Write your name, date of birth and the date/time you collected the sputum on the specimen tube.
9. Put the sputum collection tube into the bag provided (store in the refrigerator until you deliver the samples to the clinician).
10. If you need to collect three sputum samples, collect them in the morning and on three different days. Do not collect more than one per day.
11. Deliver sample(s) to your clinician'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).

NOTE: Be sure you collect sputum, not saliva. If you cannot cough up sputum, try breathing steam from a hot shower.

Contact Information:

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 Program: For more information about TB call the Section of Epidemiology at (907) 269-8000 or visit their website at: https://health.alaska.gov/dph/Epi/id/Pages/tb.aspx

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Tuberculosis NAAT Information Sheet

Mycobacterium tuberculosis complex NAA Testing Information Sheet

The Alaska State Public Health Laboratory (ASPHL) offers two nucleic acid amplification tests (NAAT) for the direct detection of *Mycobacterium tuberculosis* complex (MTC) in clinical specimens. [1] The **GeneXpert® Xpert® MTB/RIF Assay** simultaneously identifies targeted nucleic acid sequences within the MTC and rifampin (RIF) resistance associated mutations of the *rpoB* gene in sputum.

NAAT are performed on **initial smear-positive specimens**. Additionally, ASPHL will perform TB NAAT on **smear-negative sputum specimens** from patients considered to be TB suspects upon provider request and **pre-approval** from the Alaska Tuberculosis Program. These tests can provide a presumptive diagnosis, which can aid in the decision of whether to begin treatment before culture results are available.

The Center for Disease Control and Prevention recommends NAAT be performed on at least one 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. [2]

Patient Criteria:

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

  Refer to Tables 1, 2 & 3 for NAA testing algorithm and result interpretation.

[1] NAAT: nucleic acid amplification test is a molecular technique used to detect a particular pathogen in a specimen.

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

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Table 1: **GeneXpert® Xpert® MTB/RIF Result Interpretation**

Smear Result	MTB/RIF Assay Result	Interpretation
Smear Positive for AFB	**MTB DETECTED**	MTB target is detected within the sample. Use clinical judgment to determine whether to begin therapy while awaiting culture results. A positive NAA test does not necessarily indicate the presence of viable organisms.
Smear Positive for AFB	**MTB Not Detected**	MTB target is not detected within the sample. 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. A negative MTB result on the Xpert MTB/RIF assay does not rule out pulmonary TB.
Smear Negative for AFB	**MTB DETECTED**	MTB target is detected within the sample. Use clinical judgment to determine whether to begin therapy while awaiting culture results. A positive NAA test does not necessarily indicate the presence of viable organisms.
Smear Negative for AFB	**MTB Not Detected**	Use clinical judgment to determine whether to begin therapy while awaiting results of culture and other diagnostic tests. A negative MTB result on the Xpert MTB/RIF assay does not rule out pulmonary TB.

Table 2: **Xpert® Rifampin Result Interpretation**

Rifampin Result	Interpretation
RIF Resistance NOT DETECTED	No *rpoB* mutation detected; likely rifampin susceptible.
RIF Resistance DETECTED	*rpoB* mutation detected; likely rifampin resistant. Confirmatory testing in progress.
RIF Resistance INDETERMINATE	Insufficient MTB in the sample to allow determination of the *rpoB* mutation result.

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Table 3: **ASPHL TB PCR Result Interpretation**

Smear Result	TB PCR Result	Interpretation
Smear Positive for AFB	**DNA DETECTED**	Use clinical judgment to determine whether to begin therapy while awaiting culture results. A positive NAA test does not necessarily indicate the presence of viable organisms.
Smear Positive for AFB	**DNA Not 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. A negative TB PCR result does not rule out TB.
Smear Negative for AFB	**DNA DETECTED**	Use clinical judgment to determine whether to begin therapy while awaiting culture results. A positive NAA test does not necessarily indicate the presence of viable organisms.
Smear Negative for AFB	**DNA Not detected**	Use clinical judgment to determine whether to begin therapy while awaiting results of culture and other diagnostic tests. A negative TB PCR result does not rule out TB.

Mycobacterium tuberculosis complex NAAT and culture results must be correlated with patient history to confirm as a case of TB infection. The GeneXpert® Xpert® MTB/RIF Assay and the ASPHL TB PCR tests detect the presence of a specific DNA sequence present in *Mycobacterium tuberculosis* complex (MTC), which includes *M. tuberculosis, M. bovis, M. bovis* BCG, *M. africanum, M. canettii, M. microti, M. caprae, M. pinnipedii, M. mungi, and M. orygis.* Results from TB NAA tests 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.
https://health.alaska.gov/dph/Labs/Documents/LaboratoryTests.pdf

Alaska Tuberculosis Program Business hours: 907-269-8000 After hours: 800-478-0084	Rapid Telephonic Reporting Anchorage: 907-561-4234 Fax: 907-561-4239 Statewide: 800-478-1800	Alaska State Public Health Lab Main Lab line: 907-334-2100 TB Department: 907-334-2139 Fax: 907-334-2161

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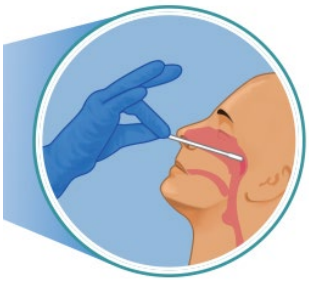
Collecting Nasopharyngeal Swabs for Respiratory Virus Testing

Supplies Needed: UTM Kit = Universal Transport Media (UTM) with collection swab:
Swabs are made of synthetic or plastic materials only. Metal, wood, calcium alginate or cotton material will NOT be accepted. Fairbanks Lab Request Form

Collection Instructions:
Please Note: *The following instructions are for nasopharyngeal collection only. While nasopharyngeal swabs are preferred, other specimen types are acceptable. Please see the* Respiratory Pathogen Panel test section *in this directory for further information. These instructions were adapted from https://www.cdc.gov/coronavirus/2019-ncov/downloads/lab/NP-Specimen-Collection-Infographic.pdf.*

1. One NP swab is collected for PCR as described below.
2. Remove mucus from the patient's nose.
3. Carefully open package containing the NP swab and remove swab for specimen collection.
4. Tilt patient's head back 70 degrees. Gently and slowly insert a minitip swab with a flexible shaft through the nostril parallel to the palate until resistance is encountered. The distance is equivalent to that from the nostril to the ear of the patient, indicating contact with the nasopharynx.
5. Gently rub and roll the swab, leaving it in place for several seconds to absorb secretions. If a deviated septum or blockage creates difficulty in obtaining the specimen from one nostril, use the same swab to obtain the specimen from the other nostril.



6. Slowly remove swab while rotating it. Specimens can be collected from both nostril, but it is not necessary if the minitip swab is saturated with fluid from the first nostril.
7. Place swab, tip first, into the transport tube provided. Once the tip is near the bottom, break the swab handle at the swab breakpoint by bending back and forth or cut it off with sterile scissors. The swab should fit in the tube comfortably so that the cap can be screwed on tightly to prevent leakage and contamination.
8. Clearly label the UTM containing the swab with patient's name (or alternate unique identifier), date of birth and collection date. Two patient identifiers are required for specimen acceptance at ASVL.
9. Complete the Fairbanks Lab Request Form.
10. Immediately transport specimen to the laboratory. If transport is delayed, place specimen on ice or refrigerate.

Transport:
1. Place the collected specimen in the Ziploc portion of a specimen transport bag and seal. Place the completed Fairbanks 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-Fairbanks as soon as possible.
   - It is preferable to hold UTM specimen at 4°C until transport. Transport specimen on cold packs.

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HIV Confirmation Result Interpretation

Geenius Results and Further Testing Required

Screening Assay Result	Geenius HIV-1 RESULT	Geenius HIV-2 RESULT	Geenius ASSAY INTERPRETATION	Further Testing Required
Repeatedly Reactive	Negative	Negative	**HIV NEGATIVE**	**HIV-1 NAT**
	Indeterminate	Negative	**HIV-1 INDETERMINATE[a]**	**HIV-1 NAT**
	Negative	Indeterminate	**HIV-2 INDETERMINATE[b]**	**HIV-1 NAT***
	Indeterminate	Indeterminate	**HIV INDETERMINATE[c]**	**HIV-1 NAT***
	Positive	Negative	HIV-1 POSITIVE	N/A
	Positive	Indeterminate	HIV-1 POSITIVE	N/A
	Negative	Positive	HIV-2 POSITIVE	N/A
	Indeterminate	Positive	HIV-2 POSITIVE	N/A
	Positive	Positive	HIV-2 POSITIVE with HIV-1 cross reactivity	N/A
	Positive	Positive	HIV POSITIVE Untypable (undifferentiated)	N/A

a- HIV-1 band(s) detected but did not meet the criteria for HIV-1 positive.
b- HIV-2 band(s) detected but did not meet the criteria for HIV-2 positive
c- HIV band(s) detected but did not meet the criteria for HIV-1 positive or HIV-2 positive
*If HIV-1 NAT is negative, the sample will automatically be reflexed to HIV-2 NAT at the HIV NAT Reference Center

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Submission of isolates or source material

A new provision [7 AAC 27.007(e)] of the regulations effective December 29, 2013 requires submission of certain isolates or original source material to the Alaska State Public Health Laboratory (ASPHL). The purpose for this requirement is to ensure that additional characterization of isolates can be performed for public health purposes such as pulsed-field gel electrophoresis or antibiotic resistance testing. These assays can assist in detection of an outbreak and monitoring of specific pathogen strains.

A laboratory that confirms one of the pathogens in the following list shall submit isolates or aliquots of original specimens to the ASPHL:

Bacillus anthracis

Brucella species

Burkholderia mallei

Burkholderia pseudomallei

Campylobacter species

Clostridium botulinum, the laboratory shall provide a sample of the organism and, if available, a serum, stool, emesis, food, or environmental sample

Clostridium tetani

Corynebacterium diphtheriae

Escherichia coli, shiga-like toxin producing

Francisella tularensis

Haemophilus ducreyi

Haemophilus influenzae from normally sterile body fluid or site

Listeria monocytogenes

Mycobacterium leprae

Mycobacterium tuberculosis

Neisseria gonorrhoeae

Neisseria meningitidis from normally sterile body fluid or site

Salmonella species

Shigella species

Streptococcus agalactiae from normally sterile body fluid or site

Streptococcus pneumoniae from normally sterile body fluid or site

Streptococcus pyogenes from normally sterile body fluid or site

Vibrio species

Yersinia species

Additionally, if the Division of Public Health suspects or determines the existence of a situation of public health importance, including an unusual disease or outbreak, a laboratory shall submit clinical material upon request.

Isolates or aliquots of original specimens should be submitted to the ASPHL **within 2 weeks** of being identified.

Contact: Section of Laboratories
Telephone: 907-334-2100
Emergency Calls After Hours: 1-855-222-9918
Fax: 907-334-2161
Website: http://dhss.alaska.gov/dph/Labs/Pages/publications/default.aspx
Mail: PO Box 196093
Anchorage, AK 99519-6093

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Collecting Buccal Swabs for Mumps Testing

Contact the Section of Epidemiology promptly at (907) 269-8000 or 1-800-478-0084 (after hours) if a case of mumps is suspected. Epidemiology staff are available to assist in case consultation, facilitate transport of specimens and provide public health recommendations for managing suspected or confirmed cases.

SUPPLIES NEEDED: UTM Kit = Universal Transport Media (UTM) with collection swab: Swabs are made of synthetic or plastic materials only. Metal, wood, calcium alginate or cotton material will NOT be acceptable. Also acceptable: any media that is specifically for the transport of viruses (VTM, M4, M5, etc.).

Collection Instructions:

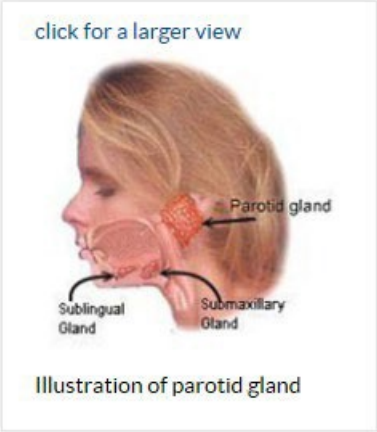
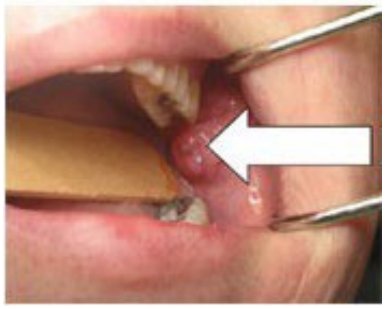


Illustration of parotid gland



- Preferred specimen: Parotid gland duct swab should be collected within nine (9) days of onset symptoms.
- Massage the parotid (salivary) glands for 30 seconds.
- Swab the buccal cavity, which is the space near the upper rear molars between the cheek and the teeth. Swab the area between the cheek and gum by sweeping the swab near the upper molar to the lower molar area.
- Swabs should be placed in at least 2mL of standard viral transport medium (media whose specific use is for the transport of viruses). The swab should be broken off and left in the medium.
- Label the sample with the patient's full name and date of birth (absolute minimum requirements).
- Storage and shipment: Following collection, samples should be kept cold (2° - 8°C) and shipped on cold packs within 24 hours. If there is a delay in shipment, the sample is best preserved by freezing at -70°C. Frozen samples should be shipped in a manner that allows them to remain frozen in transit.
- Complete the Alaska State Virology Lab Request form which can be found at this website: https://health.alaska.gov/dph/Labs/Documents/publications/Virologytestreq.pdf. In the Epidemiological Investigations section indicate parotitis onset date and vaccination status. Check (√) Mumps virus PCR. Using the drop-down menu, select the appropriate specimen type. This paperwork must accompany the specimen for submission.

  For more information on buccal swab collection, please visit the mumps page on the CDC website at: https://www.cdc.gov/mumps/lab/detection-mumps.html

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Collecting Specimens for Mpox Testing

Suspected mpox cases can be tested by the Laboratory Response Network team at the Anchorage State Public Health Laboratory. Please send all specimens as UN3373 Category B Substances directly to:

Attn: LRNB
Alaska State Public Health Laboratories – Anchorage
5455 Dr. Martin Luther King Jr. Ave
Anchorage, AK 99507

Specimen Collection Guidelines:
Collect 2-4 dry lesion swab specimens as follows:

- Vigorously swab or brush lesion with two separate sterile dry polyester or Dacron swabs
- Break off end of applicator of each swab into a 1.5- or 2-mL screw-capped tube with O-ring or place each entire swab in a separate sterile container
- **Do not add or store in viral or universal transport media**
- The specimens should be refrigerated or frozen within 1 hour of collection and shipped to the lab on ice packs or dry ice

Please also refer to: https://www.cdc.gov/poxvirus/monkeypox/clinicians/prep-collection-specimens.html

Testing and Reporting:
Specimens tested by the Anchorage State Public Health Laboratory will be reported within 24-48 hours. Positive specimens will be forwarded to the Centers for Disease Control and Prevention (CDC) in Atlanta for further characterization.

The LRN laboratory in Anchorage tests suspect mpox cases using two different polymerase chain reaction (PCR) methods. These assays detect viral DNA of orthopoxviruses using Laboratory Response Network (LRN) methodologies for nucleic acid amplification. Results should be considered in the context of clinical observations and epidemiological data for treatment. Test results will be interpreted together to achieve a final result.

Test	**Orthopoxvirus PCR**	**Non-variola Orthopoxvirus PCR**	**Interpretation**
Potential Outcome 1	Not Detected	Not Detected	Orthopoxvirus DNA has not been detected. The patient's condition should be re-evaluated to assess the need for dermatologic consultation and/or other diagnostic testing.
Potential Outcome 2	Detected	Not Detected	Detection of orthopoxvirus DNA may be indicative of a poxvirus infection (e.g., smallpox, Alaskapox, or a novel orthopoxviruses). Specimen may be sent to the CDC for further identification.
Potential Outcome 3	Detected	Detected	Detection of non-variola orthopoxvirus DNA and orthopoxvirus DNA may be indicative of a poxvirus infection (e.g., mpox, vaccinia, cowpox). Specimen may be sent to the CDC for confirmatory mpox testing.

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Interpretation of Toxic Alcohol Results

Toxic Alcohol Reference Ranges

Compound	Toxic Concentration	Lethal Concentration
Acetone	> 20 mg/dL	--
Ethanol	> 80 mg/dL	> 350 mg/dL
Ethylene Glycol	> 20 mg/dL	200-400 mg/dL
Isopropanol	40 mg/dL	> 150 mg/dL
Methanol	20 mg/dL	> 89 mg/dL

mg/dL = milligram per deciliter

Interpretation of Blood Lead Results

Investigation Levels for Blood Lead (Pb) Monitoring

EPI/CDC Investigation Trigger Values

Age	Investigation Level
Child (≤ 18 yo)	> 3.5 µg/dL
Adult (> 18 yo)	> 80 µg/dL

µg/dL = microgram per deciliter

Critical Levels Requiring Patient Notification

Possible treatment thresholds, if confirmed

Age	Critical Level
Child (≤ 6 yo)	> 25 µg/dL
Adults	> 40 µg/dL

µg/dL = microgram per deciliter