

Specimen Collection for COVID-19

March 26, 2020



COVID–19 Testing

Directive for Testing for COVID-19 under the Novel Corona Virus (Covid-19) Nasopharyngeal Swab Collection

Allows **health care professionals** to test eligible **patients** for the novel coronavirus (COVID-19) using an approved swab without an authorized prescriber's order when a patient meets [the current screening criteria](#). This action falls under the Medical Officer of Health's authority under the *Public Health Act* (Alberta).

Please note

Health care professionals means an individual who is a member of a regulated health discipline, as defined by the *Health Disciplines Act* (Alberta) or the *Health Professions Act* (Alberta), and who practises within scope and role

COVID-19 Testing – Specimen Collection

❑ A single upper respiratory tract specimen is acceptable for COVID-19 Testing. Currently, in Alberta specimen collection for COVID-19 testing is done by either:

- **Nasopharyngeal swab using NP FLOQSwab®** in a Universal Transport Medium (UTM)

OR

- **Nasal swab** using the APTIMA® Unisex or Multisite Swab Specimen Collection Kits

❑ Specimen collection should be performed by health care personnel who have **completed training and demonstrated competency in performing the skill.**

COVID-19 Test Kit Order

☐ COVID-19 Test Kits can be ordered through the Provincial Lab.

☐ Order form is available at

<https://www.albertahealthservices.ca/lab/Page3320.aspx>

Provincial Laboratory for Public Health ➡ Forms ➡ Specimen Collection Kit

☐ Edmonton (PLPH-M) accepts Phone and Fax orders

Phone: (780) 407-8971 Fax: (780) 407-8984

☐ Calgary (PLPH-M) accepts Fax orders only

Phone: (403) 944-2583 Fax: (403) 944-2317

COVID-19 Test Kit Order

- ☐ Complete your community information and contact
- ☐ Order either **Aptima Unisex Swab or Flu/UTM Kit**
- ☐ Testing Kits should be stored at **room temperature.**



SPECIMEN COLLECTION KIT/REQUISITION ORDER FORM

Edmonton Site:

8440-112 Street, Edmonton AB T6G 2J2

Phone: (780) 407-8971

Fax Edmonton area orders to: (780) 407-8984

Calgary Site:

3030 Hospital Drive NW, Calgary AB T2N 4W4

Phone: (403) 944-2583

Fax Calgary area orders to: (403) 944-2317

Facility Name:			Phone:	
Facility Address:				
Contact Person:			Notes:	

Items	Quantity		Lot number	Expiry Date
	Each	Box/Bag/Kit		
CONTAINERS, Sterile (urine or sputum c/s)				
CONTAINERS, Sterile (fecal c/s)				
BAGS, Water (TRI-WALL)				
BAGS, Biohazard specimen				
KIT, Aptima® Unisex Swab (endocervical/urethral)				
KIT, Aptima® Urine Specimen (male/female)				
KIT, Flu/UTM (insert 1) (insert 2)				
KIT, Gastric Wash (TB) (insert)				
KIT, HSV and VZV (non-blood) (insert)				
KIT, Ice Collection (Environmental)				
KIT, Mumps (insert)				
KIT, Mycology/Fungus (hair/skin/nails) (insert)				
KIT, Pertussis (insert 1) (insert 2)				
KIT, Serology (HIV / virus / syphilis / HEP)				
KIT, Sputum (TB) (insert)				
KIT, Stool (c/s or viral) (insert)				
KIT, Stool (o/p) SAF preservative (insert)				
KIT, Water Collection (Environmental)				
KIT, Other (please specify)				
MEDIA, Pertussis (Regan Lowe)				
MEDIA, SAF Preservative				
MEDIA, Universal Transport (UTM)				
REQUISITION PAD, Calgary Bacteriology				
REQUISITION PAD, Calgary Virology				
REQUISITION, Edmonton Culture and Serology #CHA 39				
REQUISITION, Request for Microbiological Analysis of Water				
SWAB, FLOQSwab™ (Nasopharyngeal)				
SWAB, Polyester swab				
SWAB, Throat (Clear)				
SWAB, Charcoal FEMALE				
SWAB, Rayon MALE (ULTRA Fine Tip)				
TUBES, Conical 50 mL (TB)				
TUBES, Vacutainer Blood Tube (5 mL)				
EDTA-PPT <input type="checkbox"/> SST <input type="checkbox"/> SPS <input type="checkbox"/>				

FOR LABORATORY USE ONLY			
Date Order Taken:		Date Order Filled:	
Order Taken By:		Order Filled By:	

Sent Via:
☐ Trans-Med ☐ CLS ☐ Gov
☐ ProvLab Driver ☐ Picked up
☐ Other

COVID-19 Testing

Personal Protective Equipment (PPE) should be worn when collecting a respiratory specimen.

Remember to read the manufacturer's package for specific instruction regarding specimen collection and transport for the type of test kit

COVID-19 Additional Precautions

- ❑ Staff involved in patient assessment should immediately initiate their own PPE.

As soon as possible

- ❑ Place patient in a single room and implement Contact & Droplet Precautions
- ❑ A single room with hard walls, a door and dedicated toilet or commode.
- ❑ Signage should be visible on entry to room
- ❑ Notify FNIHB CDC team immediately.

CONTACT & DROPLET PRECAUTIONS



CLEAN YOUR
HANDS WHEN
ENTERING AND
EXITING ROOM



STAFF AND VISITORS



VISITORS:

PLEASE CHECK WITH
NURSING STAFF BEFORE
ENTERING ROOM.

VISITORS TO WEAR FACIAL
PROTECTION IN ROOM.
GOWN AND GLOVES IF
ASSISTING WITH CARE.

PATIENTS UPON LEAVING ROOM



(FOR ESSENTIAL PURPOSES ONLY)
(PROCEDURE MASK, CLEAN GOWN
CLOTHES AND HANDS)

Influenza A or B (confirmed or suspected) + Aerosol Generating Medical Procedure (AGMP)
= N95 Respirator + eye protection

**SINGLE ROOM RECOMMENDED
WITH DEDICATED EQUIPMENT**

April 2018



COVID-19 Additional Precautions

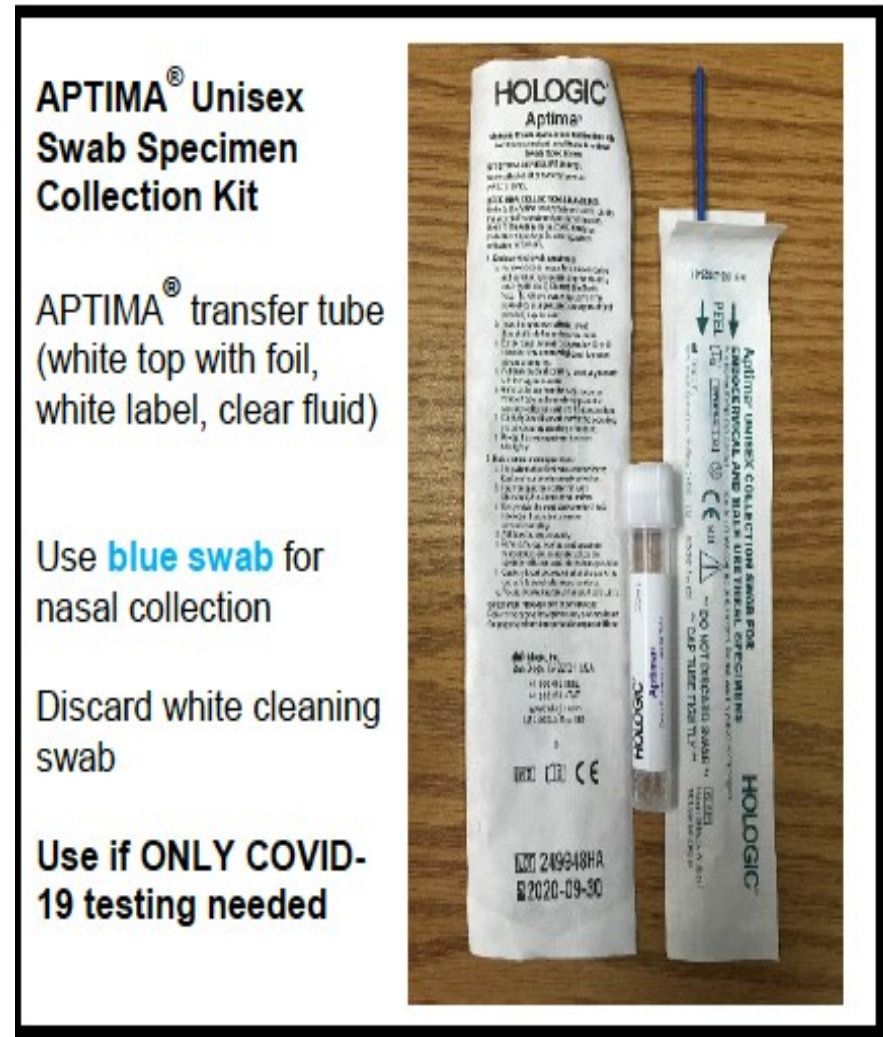
Required PPE for **Contact & Droplet Precautions** include;

- ☐ Gown
- ☐ Gloves (sterile/non-sterile depending on procedure)
- ☐ Procedure mask
- ☐ Eye protection - Goggles, face shield, or visor

As per current recommendations **N95 use only for** Aerosol Generating Procedures such as Intubation, CPR, Sputum induction, BiPaP; It **does not include** collecting nasopharyngeal (NP) or nasal swabs

Nasal Swab Collection

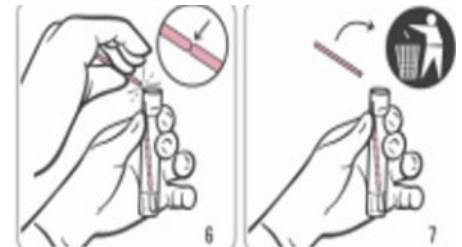
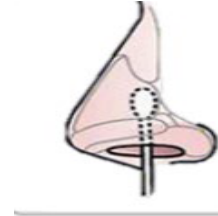
1. Assemble all supplies such as PPE (gloves, gown, facial protection), pen, appropriate collection kit (APTIMA Unisex collection kit) and Provincial Lab requisition
2. Check expiry date of the collection kit.
3. Check expiry date of PPE equipment
4. Perform hand hygiene by washing hands with soap and water or using alcohol hand rub.
5. Put on gloves, gown, mask and eye protection.



APTIMA Unisex Swab Collection Kit
Source: Alberta Precision Laboratory

Nasal Swab Collection

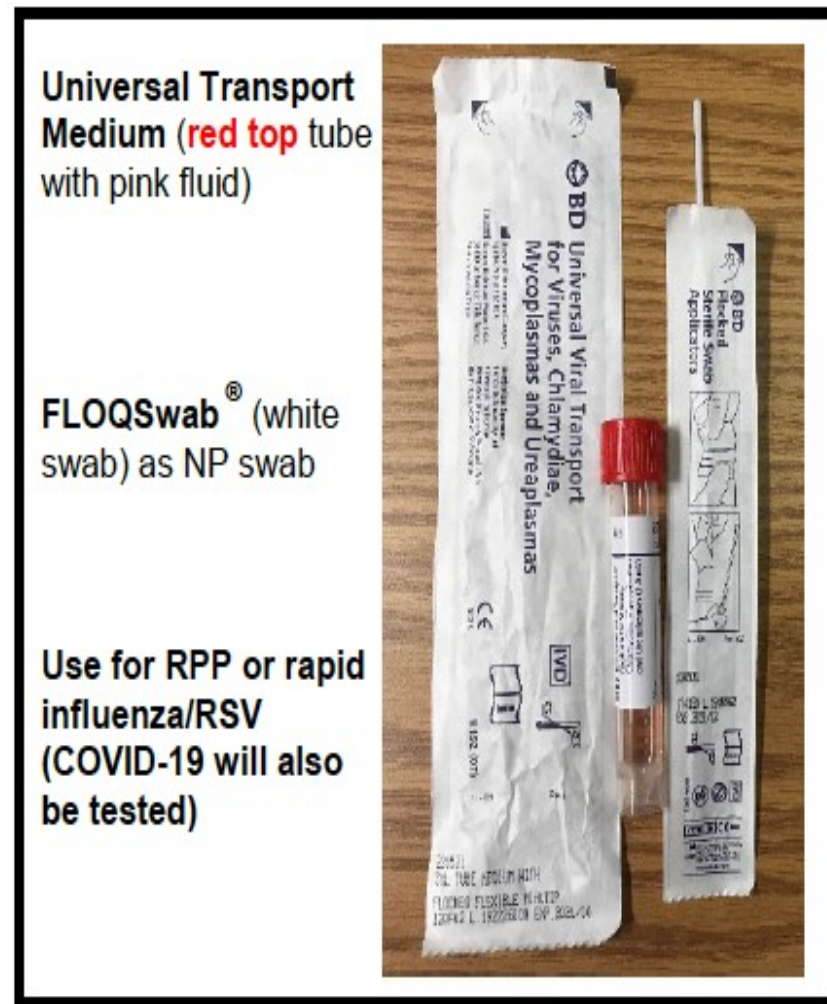
6. Ask the patient to tilt his/her head back.
7. Insert the Unisex (blue) swab approximately 3 cm (or until you encounter resistance).
8. Rotate the swab inside of the nostril for 3 seconds, covering all surfaces. Repeat the procedure in the other nostril with the same swab.
9. While holding the swab in your hand, unscrew the tube cap (foil top). Do not spill the tube contents. Immediately place the swab into the transport tube so that the line is in line with the top edge of the tube and carefully break the shaft. The swab will drop to the bottom of the vial. **DO NOT FORCE THE SWAB THROUGH OR DO NOT PUNCTURE THE FOIL CAP.**
10. Discard the top portion of the shaft. Tightly screw the cap onto the tube.
11. Place tube in biohazard bag. Place requisition in pouch outside of the bag.
12. Refrigerate tubes or store on ice if possible. If no refrigeration available, store at room temperature and ship to the lab within 24 hours.
13. Remove and discard gloves. Perform hand hygiene by washing hands with soap and water or using alcohol hand rub. Remove and discard face mask, and repeat hand hygiene.
14. Follow the labelling and transport instructions given in the collection kit insert.



Source: Alberta Precision Laboratories

Nasopharyngeal Swab Collection

1. Assemble all supplies such as PPE (gloves, gown, facial protection), pen, appropriate collection kit containing Provincial Lab requisition, nasopharyngeal FLOQswab and universal transport medium.
2. Check expiry date of transport medium.
3. Check expiry date of PPE equipment
4. Perform hand hygiene by washing hands with soap and water or using alcohol hand rub.
5. Put on gloves, gown, mask and eye protection.

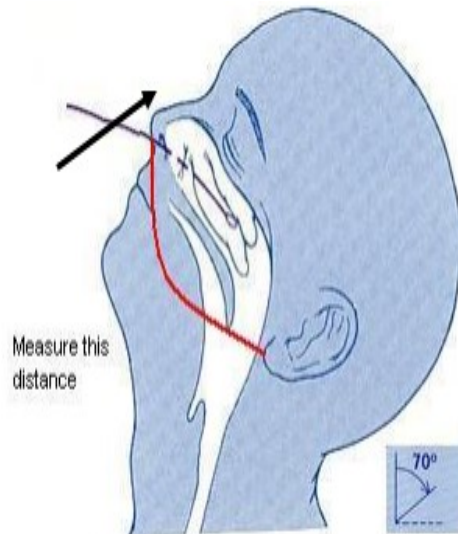


Nasopharyngeal Collection Kit

Source: Alberta Precision Laboratory

Nasopharyngeal Swab Collection

6. Have the patient sit in a chair or lie on a bed – elevate the head of the bed so that their head can be tilted back (see diagram).
7. Remove any mucous from the patient's nose, with a tissue or cotton tipped swab prior to collecting the NP swab
8. **How deep is the NP swab inserted into the nasopharynx?**
Measure the distance from the corner of the nose to the front of the ear and **insert the shaft ONLY half this length**. In adults, this distance is usually about 4 cm, (finest thickness of this swab shaft). In children this distance is less.
8. Tilt the patient's head **back slightly** (about 70 degrees) to straighten the passage from the front of the nose to the nasopharynx to make insertion of the swab easier.
9. **Gently** insert the swab along the medial part of the septum, along the base of the nose, until it reaches the posterior nares – gentle rotation of the swab may be helpful. (If resistance is encountered on one side, try the other nostril, as the patient may have a deviated septum).
10. Rotate the swab several times to dislodge the columnar epithelial cells, and then remove the swab.



Note – insertion of the swab usually induces a cough.

Nasopharyngeal Swab Collection

11. Put the NP swab into the transport medium and break it at the score mark on the shaft so that it does not protrude above the rim of the container. Failure to do so will result in the transport medium leaking and the sample being discarded.
12. **Ensure that the lid of the container is screwed on tight.** Place the specimen in the big inner pocket of the plastic biohazard bag provided
13. Remove and discard gloves. Perform hand hygiene by washing hands with soap and water or using alcohol hand rub. Remove and discard face mask, and repeat hand hygiene.
14. Follow the labelling and transport instructions given in the collection kit insert

Specimen Collection Video

The following videos demonstrates collection of Nasopharyngeal Swab for different age groups

Child

<https://www.youtube.com/watch?v=T4HwytFFtQU&list=PLi1tOF1I5ZoXMeW4LQruoKHPW-qmbtwoW&index=2>

Adult

<https://www.youtube.com/watch?v=6VdOCuuz8gQ&list=PLi1tOF1I5ZoXMeW4LQruoKHPW-qmbtwoW&index=3>

Senior

<https://www.youtube.com/watch?v=e1IGpxqzJXI&list=PLi1tOF1I5ZoXMeW4LQruoKHPW-qmbtwoW&index=4>

(Source Alberta Health Services)

Specimen Collection – Lab Requisition

- ❑ For COVID-19 testing use the following requisition **Serology and Molecular Testing Requisition** available at <https://www.albertahealthservices.ca/frm-20676.pdf>

- ❑ Write “COVID-19” in the bottom box (Specify Other Serology and Molecular Tests).

- ❑ Date of symptom onset and travel history, including country of travel and return date, MUST be included for testing to proceed.

Alberta Health Services		Provincial Laboratory for Public Health		Accession # (lab only)	
Serology and Molecular Testing Requisition					
Edmonton Site 8440-112 St. T6G 2J2 Phone 780.407.7121 Fax 780.407.3864 Virologist/Microbiologist-on-call 780.407.8822		Calgary Site 3030 Hospital Dr NW T2N 4W4 Phone 403.944.1200 Fax 403.270.2216 Virologist/Microbiologist-on-call 403.944.1200			
<p>■ Consult the Site Virologist/Microbiologist-on-Call listed above for STAT requests, and when specified in the Guide to Services</p> <p>■ See the Guide to Services (https://www.albertahealthservices.ca/lab/page3317.asp?education.htm) for information on sample type, transport and testing</p> <p>■ For Zoonotic Infections (eg. mosquito-borne, tick-borne) use form 20087 Zoonotic Testing Requisition (https://www.albertahealthservices.ca/frm-20087.pdf)</p>					
Patient		Requester			
PHN		Alternate Identifier		Date of Birth (yyyy-mm-dd)	
Last Name		First Name		Middle	Gender Phone
Address		City/Town		Prov	Postal Code Location
Requester Name (last, first)		Location/Facility/Address		Phone	Healthcare Provider ID
Copy to (last, first)		Location/Facility/Address		Phone	Healthcare Provider ID
Specimen/Type Source - Specify					
Date Collected (yyyy-mm-dd)		Time (24 hr)	Location	Collector ID	Outbreak (EI) # if applicable (yyyy-###)
Blood <input type="checkbox"/> Blood <input type="checkbox"/> Bone Marrow <input type="checkbox"/> Cord Blood		Fluid <input type="checkbox"/> CSF <input type="checkbox"/> Auger Suction <input type="checkbox"/> Bronchoalveolar Lavage (BAL) <input type="checkbox"/> Eye (Aqueous) <input type="checkbox"/> Eye (Vitreous) <input type="checkbox"/> Nasopharyngeal <input type="checkbox"/> Urine		Swab <input type="checkbox"/> Buccal <input type="checkbox"/> Cervical <input type="checkbox"/> Eye (specify) <input type="checkbox"/> Lip <input type="checkbox"/> Lesion (specify) <input type="checkbox"/> Mouth <input type="checkbox"/> Nasopharyngeal <input type="checkbox"/> Rectal <input type="checkbox"/> Throat <input type="checkbox"/> Urethral	
Tissue <input type="checkbox"/> Autopsy (specify) <input type="checkbox"/> Biopsy (specify)		Other <input type="checkbox"/> Stool <input type="checkbox"/> Other (specify)			
Provide Clinical History or Reason for Testing below - Testing will NOT proceed if this section is incomplete					
Reason for Testing				List Countries visited within past 3 months of symptom onset OR provide relevant travel history <input type="checkbox"/> No Travel	
Symptoms (Check all that apply)				Date of return (yyyy-mm-dd)	
<input type="checkbox"/> Fever <input type="checkbox"/> Rash (type) <input type="checkbox"/> Gastrointestinal <input type="checkbox"/> Respiratory (specify) <input type="checkbox"/> Neurologic <input type="checkbox"/> Other (specify) <input type="checkbox"/> Polyarthralgia				Relevant immunizations and dates	
Date of onset OR Duration of symptoms				Immunocompromised <input type="checkbox"/> No <input type="checkbox"/> Yes (details)	
Viral Serology		Hepatitis A		Parasite Serology	
<input type="checkbox"/> CMV IgG <input type="checkbox"/> EBV Panel <input type="checkbox"/> HSV IgG <input type="checkbox"/> Measles IgG <input type="checkbox"/> Mumps IgG <input type="checkbox"/> Parvovirus B19 IgG <input type="checkbox"/> Rubella IgG <input type="checkbox"/> Varicella zoster IgG		<input type="checkbox"/> HAV IgG <input type="checkbox"/> HAV IgM <input type="checkbox"/> HAV IgG PROV <input type="checkbox"/> HAV IgM PROV		<input type="checkbox"/> Strongyloides <input type="checkbox"/> Toxoplasma <input type="checkbox"/> STROG <input type="checkbox"/> TOXO IGG	
<input type="checkbox"/> CMV IgM <input type="checkbox"/> Measles IgM <input type="checkbox"/> Mumps IgM <input type="checkbox"/> Parvovirus B19 IgM <input type="checkbox"/> Rubella IgM		<input type="checkbox"/> HBsAg <input type="checkbox"/> HBsAb <input type="checkbox"/> HBeAg <input type="checkbox"/> HBeAb <input type="checkbox"/> HBeAg PROV <input type="checkbox"/> HBeAb PROV		<input type="checkbox"/> Brucella <input type="checkbox"/> Diphtheria antitoxin <input type="checkbox"/> Mycoplasma pneumoniae <input type="checkbox"/> Syphilis <input type="checkbox"/> Tetanus antitoxin	
<input type="checkbox"/> HIV Serology <input type="checkbox"/> HIV AB		<input type="checkbox"/> HCV Serology <input type="checkbox"/> HCV AB		<input type="checkbox"/> Bacterial Serology <input type="checkbox"/> Brucella <input type="checkbox"/> Diphtheria antitoxin <input type="checkbox"/> Mycoplasma pneumoniae <input type="checkbox"/> Syphilis <input type="checkbox"/> Tetanus antitoxin	
Molecular Detection (NAT)		Parasite Serology		Molecular Detection (NAT)	
<input type="checkbox"/> Bordetella Panel <input type="checkbox"/> CSF Viral Panel <input type="checkbox"/> Enterovirus Panel <input type="checkbox"/> Eye Viral Panel <input type="checkbox"/> Gastroenteritis Viral Panel <input type="checkbox"/> Herpes simplex virus <input type="checkbox"/> Measles virus <input type="checkbox"/> Mumps virus <input type="checkbox"/> Respiratory Pathogen Panel <input type="checkbox"/> Varicella zoster virus <input type="checkbox"/> Syphilis		<input type="checkbox"/> Strongyloides <input type="checkbox"/> Toxoplasma <input type="checkbox"/> STROG <input type="checkbox"/> TOXO IGG		<input type="checkbox"/> BP PCR <input type="checkbox"/> CSF PANEL <input type="checkbox"/> EV FEV PCR <input type="checkbox"/> EYE PANEL <input type="checkbox"/> GI PANEL <input type="checkbox"/> HS VZ PCR <input type="checkbox"/> MEAS PCR <input type="checkbox"/> MUMPS PCR <input type="checkbox"/> HS VZ PCR <input type="checkbox"/> SYPH PCR	
Fungal Serology		Restricted Molecular Testing		Restricted Molecular Testing	
<input type="checkbox"/> Blastomycetes <input type="checkbox"/> Coccidioides <input type="checkbox"/> Cryptococcal Antigen <input type="checkbox"/> Galactomannan <input type="checkbox"/> Histoplasma		<input type="checkbox"/> BLAST ID <input type="checkbox"/> BKV PCR <input type="checkbox"/> CMV PCR <input type="checkbox"/> EBV PCR <input type="checkbox"/> HBV QUANT <input type="checkbox"/> HCV QUANT <input type="checkbox"/> HIV QUANT <input type="checkbox"/> HIV QUANT <input type="checkbox"/> JC Virus		<input type="checkbox"/> AD PCR <input type="checkbox"/> BKV PCR <input type="checkbox"/> CMV PCR <input type="checkbox"/> EBV PCR <input type="checkbox"/> HBV QUANT <input type="checkbox"/> HCV QUANT <input type="checkbox"/> HIV QUANT <input type="checkbox"/> HIV QUANT <input type="checkbox"/> JC Virus	
Specify Other Serology and Molecular Tests					

Specimen Collection Guideline

- ❑ All patients who are under investigation for COVID-19 and are not hospitalized **should be advised to self-isolate** until they have received a phone call from Public Health with the results of their testing. They should not visit any other healthcare facilities, including outpatient imaging or labs, unless they are being admitted to hospital.

- ❑ Self Isolation information is available at <https://open.alberta.ca/publications/self-isolation-information-sheet>

- ❑ Contact your community lab for information regarding transportation of the specimen to the Provincial Laboratory

Reference

Alberta Health services, ProvLab. (2016). UTM/Flu Kit: for Detection of Respiratory Viruses.

<https://www.albertahealthservices.ca/assets/wf/plab/wf-provlab-utm-flu-kit-insert.pdf>

Alberta Health services, ProvLab. (2017). Collection of a Nasopharyngeal and Throat Swab for Detection of

Respiratory Infection. <https://albertahealthservices.ca/assets/wf/plab/wf-provlab-collection-of-nasopharyngeal-and-throat-swab.pdf>

Alberta Precision Labs – Public Health Laboratory. (6 March 2020). Novel coronavirus causing COVID-19 laboratory update. <https://www.albertahealthservices.ca/assets/wf/lab/wf-lab-bulletin-novel-coronavirus-causing-covid-19-laboratory-update.pdf>

Alberta Precision Labs – Public Health Laboratory. (19 March 2020). Interim recommendations for COVID-19 sample collection. <https://www.albertahealthservices.ca/assets/wf/lab/wf-lab-bulletin-interim-recommendations-for-covid-19-sample-collection.pdf>

Alberta Health Services. (13 March 2020). COVID-19 Screening Criteria.

<https://www.albertahealthservices.ca/assets/info/ppih/if-ppih-ncov-case-def.pdf>

Alberta Health Services. Novel Corona Virus (Covid-19) Nasopharyngeal Swab collection Directive.

<https://extranet.ahsnet.ca/teams/policydocuments/1/clp-ahs-novel-coronavirus-nasopharyngeal-swab-hcs-253-01.pdf>

Ottawa Public Health. How to collect a Nasopharyngeal (NP) swab.

<https://www.ottawapublichealth.ca/en/professionals-and-partners/how-to-collect-a-nasopharyngeal--np--swab.aspx>

Public Health Agency Canada (February 2020). Coronavirus disease (COVID-19): For health professionals.

<https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/health-professionals.html>