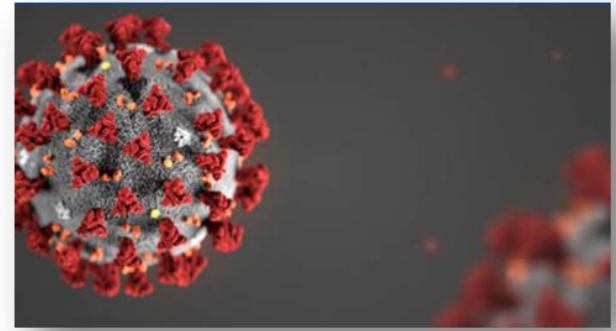




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Training for Sample Collection Procedure for SARS-CoV-2 Diagnostic Testing

Approved: May 15, 2020

Objectives

- Overview of COVID-19
- Personal Protective Equipment
- Sample Collection Process
- Occupational Health Considerations
- Additional Resources

Background

- On March 7, 2020, Governor Andrew M. Cuomo issued Executive Order No. 202, which modified sections 6521 and 6902 of the Education Law, to the extent necessary to permit unlicensed individuals, upon completion of training deemed adequate by the Commissioner of Health, to collect throat or nasopharyngeal swab specimens from individuals known to have been exposed to, with symptoms suggestive of, or known to have COVID-19, for purposes of testing
- This training is intended to train licensed and unlicensed individuals in New York State in the collection of specimens for SARS-CoV-2 testing in order to facilitate the public health response to the COVID-19 outbreak

<https://www.governor.ny.gov/news/no-202-declaring-disaster-emergency-state-new-york>

Overview of COVID-19

Definitions

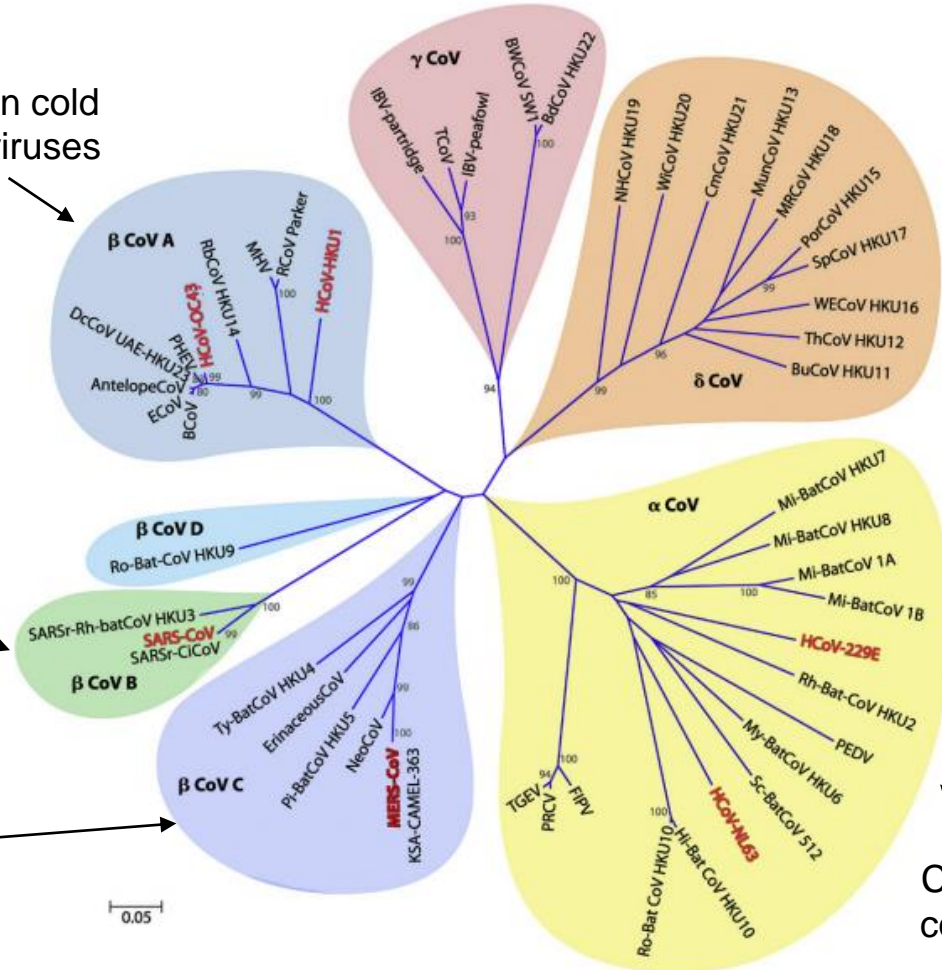
- **Coronavirus:** A group of related viruses that typically cause respiratory disease in humans
- **SARS-CoV-2:** Official name for the particular strain of coronavirus causing the 2019 novel coronavirus outbreak
- **COVID-19:** Official name for the disease occurring in the 2019 novel coronavirus outbreak

Common cold coronaviruses

- SARS-CoV-2 is part of a large family of viruses called coronaviruses.
- This diagram shows the family map of Coronaviruses including SARS-CoV-2 and other significant pathogens causing outbreaks

SARS-CoV
SARS-CoV-2

MERS-CoV



Common cold coronaviruses

Disease Spread and Symptoms

- Disease Spread:
 - Primarily person-to-person spread
 - Close contact (within about 6 feet)
 - Through respiratory droplets produced when an infected person coughs or sneezes
 - Spread from contact with infected surfaces or objects
 - May be possible but not thought to be main way the virus spread
 - Some studies of other human coronaviruses suggest virus may remain on surfaces for 2 hours to 9 days → more study is needed
 - On average, each infected person spreads the infection to an additional two persons
 - Indicates more infectious than most influenza strains

Disease Spread and Symptoms

- Symptoms:
 - Mild to severe respiratory symptoms
 - Fever
 - Cough
 - Trouble Breathing
 - Some patients may also experience other symptoms including:
 - Chills
 - Diarrhea
 - Muscle aches
 - Runny nose
 - Headache
 - Fatigue
 - Sore throat
 - Wheezing
 - Abdominal pain
 - New loss of taste or smell
 - Vomiting

NYSDOH Response Activities

- Working closely with CDC, NYCDOHMH, local health departments, and other NYS agencies
 - Airport Screening
 - Isolation & Quarantine operations
 - Monitoring of individuals
 - Laboratory testing
- Public education
 - [NYSDOH COVID-19 webpage](#)
 - [Public Service Announcements](#)
 - Hotline for information on COVID-19
 - 1-888-364-3065
- Healthcare provider and healthcare facility education
 - Advisories, webinars, resources

Protect yourself from COVID-19 and stop the spread of germs.

Simple steps help stop the spread of COVID-19 and other viruses:



Wash your hands often with soap and water for at least 20 seconds, especially before eating.



Avoid close contact with people who are sick.



Avoid touching your eyes, nose, and mouth.



Stay home when you are sick.



Cover your cough or sneeze with a tissue, then throw the tissue in the trash.



Clean and disinfect frequently touched objects and surfaces.

Stay up to date by visiting
www.ny.gov/coronavirus

Personal Protective Equipment (PPE) Required for Sample Collection for SARS- CoV-2 Testing

Diagnostic respiratory specimen collection for COVID-19

- This process is for all COVID-19 diagnostic testing, which should be ordered based on indications for testing
- Testing for the virus that causes COVID-19 should be conducted outdoors if climate allows
- If conducted in the home or an indoor facility, specimen collection should be performed in the room where the individual being tested self-isolates
 - Only the personnel and individual being tested should be in the room when testing is performed

PPE Protocol Overview

- BEFORE entering the patient area/home:
 - Perform hand hygiene
 - Put on respiratory protection, eye protection, gown (if collecting nasopharyngeal swab), and gloves.
 - Knock or ring bell if entering a home
- AFTER leaving the patient area/home:
 - Remove and properly dispose of gloves, eye protection, gown (if collecting nasopharyngeal swab), and respiratory protection in a garbage bag
 - The garbage bag can be thrown away with the regular waste
 - Perform hand hygiene

Hand Hygiene

- Perform hand hygiene before and after all patient contact, contact with potentially infectious material, and before putting on and after removing PPE, including gloves
- Hand hygiene after removing PPE is particularly important to remove any virus that might have been transferred to bare hands during the removal process
- Perform hand hygiene by using alcohol-based hand rub (ABHR) with 60-95% alcohol or washing hands with soap and water for at least 20 seconds
 - If hands are visibly soiled, use soap and water before returning to ABHR

How to handrub?

RUB HANDS FOR HAND HYGIENE! WASH HANDS ONLY WHEN VISIBLY SOILED!



Duration of the entire procedure: **20-30 sec.**



Apply a palmful of the product in a cupped hand and cover all surfaces.

Rub hands palm to palm



right palm over left dorsum with interlaced fingers and vice versa

palm to palm with fingers interlaced

backs of fingers to opposing palms with fingers interlocked



rotational rubbing of left thumb clasped in right palm and vice versa

rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa

...once dry, your hands are safe.

Hand Hygiene



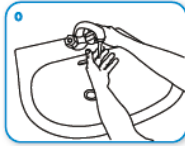
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How to handwash?

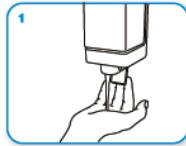
WASH HANDS ONLY WHEN VISIBLY SOILED! OTHERWISE, USE HANDRUB!



Duration of the entire procedure: 40-60 sec.



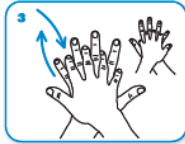
Wet hands with water



apply enough soap to cover all hand surfaces.



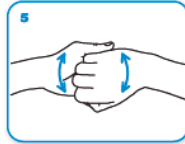
Rub hands palm to palm



right palm over left dorsum with interlaced fingers and vice versa



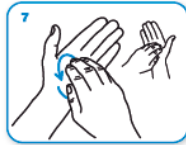
palm to palm with fingers interlaced



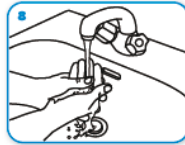
backs of fingers to opposing palms with fingers interlocked



rotational rubbing of left thumb clasped in right palm and vice versa



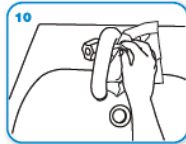
rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa.



Rinse hands with water



dry thoroughly with a single use towel



use towel to turn off faucet



...and your hands are safe.

Hand Hygiene



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Recommended Personal Protective Equipment (1)

- Personnel collecting specimens should wear recommended PPE, including:
 - Gloves,
 - Eye protection (face shield or goggles),
 - Gown (depending on specimen being collected), and
 - Respiratory protection.
- PPE should be put on before being exposed to potential suspect cases
- Hand hygiene should be performed before putting on and after removing PPE using alcohol-based hand sanitizer that contains 60 to 95% alcohol

Recommended Personal Protective Equipment (2)

- If personnel is having direct patient contact and is collecting a nasopharyngeal swab, nasal swab, or oropharyngeal swab, respiratory protection should be at least as protective as a NIOSH-approved N95 filtering facepiece respirator, as recommended in the [*Interim Infection Prevention and Control Recommendations for Patients with Confirmed Coronavirus Disease 2019 \(COVID-19\) or Persons Under Investigation for COVID-19 in Healthcare Settings*](#)
- If personnel are providing direct observation of an individual performing nasal and saliva self-swab specimen collection, respiratory protection shall consist of a facemask.

Recommended Clothing

- Comfortable shoes
- Wear professional, comfortable clothing
- Keep hair neatly up and out of the face. This will prevent face touching.

Gloves

- Wear gloves that fit appropriately (select gloves according to hand size)
- Do not wear the same pair of gloves for the care of more than one person being swabbed
- Do not wash gloves for the purpose of reuse
- Perform hand hygiene before and immediately after removing gloves
- Limitations of PPE – None for this purpose. Impervious to fluids.
- Proper care, maintenance, useful life and disposal of PPE – Do not reuse. Change or discard if gloves have tears, sweat saturation, or had deteriorated due to age or time in use. If remains intact, use for no more than 4 hours. Follow doffing procedure for removal and disposal in designated area.

Eye Protection

- Wear eye protection for potential splash or spray of respiratory secretions (such as may occur with nasopharyngeal specimen collection) and to protect mucous membranes from droplets which may be present when in close contact with an individual.
- Personal eyeglasses and contact lenses are not considered adequate eye protection.
- May use goggles with facemasks, or face shield alone, to protect the mouth, nose and eyes. If wearing a standard N95, a face shield is preferred over goggles.
- Limitations of PPE – Covers half of face. Impervious to fluids.
- Proper care, maintenance, useful life and disposal of PPE – Do not reuse. Change or discard face shield if it tears, breaks, sweat saturation, or had deteriorated due to age or time in use. If remains intact, use for no more than 8 hours. Follow doffing procedure for removal and disposal in designated area.

Gown

- Wear a gown to protect skin and clothing during activities where potential exists for splash or spray of respiratory secretions (such as may occur with direct personnel collection of nasopharyngeal, nasal or oropharyngeal specimens)
- Gowns do not need to be changed between persons tested until, and unless:
 - They are suspected to be contaminated (e.g. contact with bodily fluids);
 - They are damaged; or
 - The person wearing the gown leaves the patient area or goes on break.
- Remove gown and perform hand hygiene after leaving the person's environment
- Limitations of PPE-none for this purpose. Does not cover feet or shins. Impervious to fluids
- Proper care, maintenance, useful life and disposal of PPE-Do not reuse. Change or discard if gown has tears, sweat saturation, or had deteriorated due to age or time in use. If remains intact, use for no more than 8 hour shift. Follow doffing procedure for removal and disposal in designated area.

Respirator

- There are several classifications or designations for filtering respirators
- The available levels of filter efficiency are 95%, 99%, and 99.97%
- Categories of filter are:
 - **N**: Filters particles. N filters are not resistant to oil;
 - **R**: Filters particles. R filters are somewhat resistant to oil;
 - **P**: Filters particles. P filters are strongly resistant to oil.

Minimum Efficiency*	Filter Classification		
95%	N95	R95	P95
99%	N99	R99	P99
99.97%	N100	R100	P100

Prohibited Duties

- Maintain a comfortable distance (more than 6 feet) from the person and avoid direct physical contact for interactions that do not involve direct specimen collection.
- Always have a good breakfast/lunch before shifts to resist the temptation of eating or drinking while on duty
- <https://www.cdc.gov/coronavirus/2019-ncov/hcp/infection-control.html>

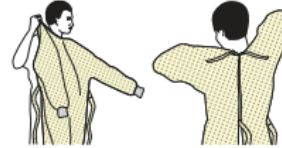
Donning

SEQUENCE FOR PUTTING ON PERSONAL PROTECTIVE EQUIPMENT (PPE)

The type of PPE used will vary based on the level of precautions required, such as standard and contact, droplet or airborne infection isolation precautions. The procedure for putting on and removing PPE should be tailored to the specific type of PPE.

1. GOWN

- Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back
- Fasten in back of neck and waist



2. MASK OR RESPIRATOR

- Secure ties or elastic bands at middle of head and neck
- Fit flexible band to nose bridge
- Fit snug to face and below chin
- Fit-check respirator



3. GOGGLES OR FACE SHIELD

- Place over face and eyes and adjust to fit



4. GLOVES

- Extend to cover wrist of isolation gown



USE SAFE WORK PRACTICES TO PROTECT YOURSELF AND LIMIT THE SPREAD OF CONTAMINATION

- Keep hands away from face
- Limit surfaces touched
- Change gloves when torn or heavily contaminated
- Perform hand hygiene



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Doffing

- It is important to take off (doff) PPE in the order shown in the figure

HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE) EXAMPLE 2

Here is another way to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. **Remove all PPE before exiting the patient room** except a respirator, if worn. Remove the respirator **after** leaving the patient room and closing the door. Remove PPE in the following sequence:

1. GOWN AND GLOVES

- Gown front and sleeves and the outside of gloves are contaminated!
- If your hands get contaminated during gown or glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp the gown in the front and pull away from your body so that the ties break, touching outside of gown only with gloved hands
- While removing the gown, fold or roll the gown inside-out into a bundle
- As you are removing the gown, peel off your gloves at the same time, only touching the inside of the gloves and gown with your bare hands. Place the gown and gloves into a waste container



2. GOGGLES OR FACE SHIELD

- Outside of goggles or face shield are contaminated!
- If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Remove goggles or face shield from the back by lifting head band and without touching the front of the goggles or face shield
- If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in a waste container

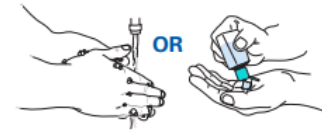


3. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated — **DO NOT TOUCH!**
- If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front
- Discard in a waste container



4. WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER IMMEDIATELY AFTER REMOVING ALL PPE



PERFORM HAND HYGIENE BETWEEN STEPS IF HANDS BECOME CONTAMINATED AND IMMEDIATELY AFTER REMOVING ALL PPE



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Sample Collection Process

Consent

- Obtain oral consent for specimen collection, which includes describing the types of specimens to be collected
- Do not collect specimens unless the patient is adequately informed and consents to specimen collection
- For minor persons and patients incapable of consenting to specimen collection, before a specimen may be collected, either a person legally responsible for the patient must give prior written consent to the specimen being collected or a person legally responsible for the patient must be present during the specimen collection and consent to the specimen collection

The type of specimen collected will be dependent upon the laboratory that will be used for testing.

- Contact the clinical laboratory to whom you will be referring samples.
- Complete the necessary laboratory order forms required by the specific laboratory for specimen submission.

**All forms should be completed PRIOR
to Specimen Collection**

Viral Swabs



- Use only synthetic fiber swabs with plastic shafts
- Do not use calcium alginate swabs or swabs with wooden shafts, as they may contain substances that inactivate some viruses and inhibit PCR testing

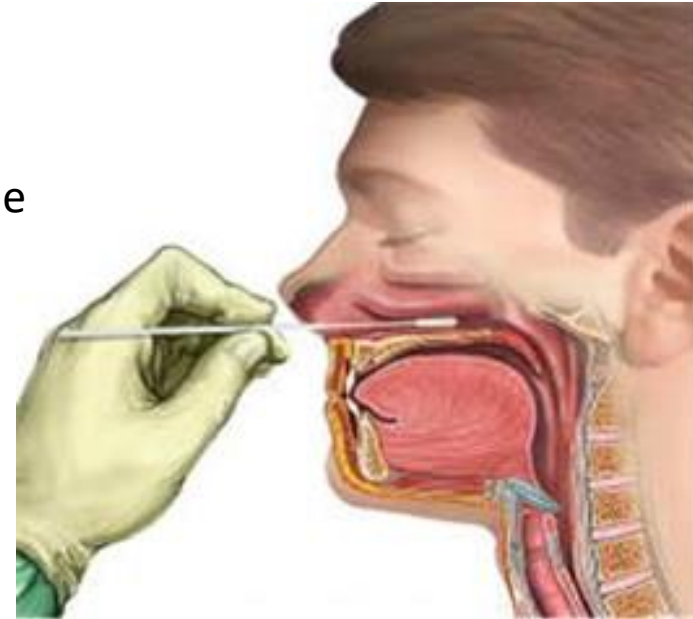
Nasopharyngeal swab (NP) is the preferred specimen

- After specimen collection place swab immediately into a sterile vial containing liquid transport media, which may be viral (VTM), molecular (MTM), or universal (UTM). Please verify with your laboratory.
- Nasopharyngeal (NP) Swab -
<https://www.youtube.com/watch?v=hXohAo1d6tk>
<https://www.youtube.com/watch?v=DVJNWefmHjE>

The Joint Commission and the Centers for Disease Control and Prevention would like to thank Copan Diagnostics for their contribution in producing these instructional videos.

Nasopharyngeal Swab:

1. Tilt patient's head back 70 degrees.
2. Pass the NP swab through the nares to reach a depth equal to distance from nostrils to outer opening of the ear. Resistance will be met, and this will confirm contact with the nasopharynx.
3. Allow a time of contact of several seconds to absorb secretions.
4. Slowly rotate the swab tip while removing the swab. This will loosen and collect cellular material.
5. Place swab into the transport media (VTM, MTM or UTM) vial. Make sure liquid medium covers the swab tip.
6. Break or cut the end of the swab and screw the vial lid on **tightly**.



Nasal Swab:

1. Provide the patient with nasal swab and then step back to a distance of 6 feet or more.
2. Instruct the patient to insert the swab less than one inch into the anterior nostril and rotate several times against the nasal wall.
3. Instruct the patient to repeat in the other nostril using the same swab.
4. Collect the swab back from the patient and place in the vial containing transport media. Make sure liquid medium covers the swab tip.
5. Break or cut the end of the swab and screw the vial lid on **tightly**.



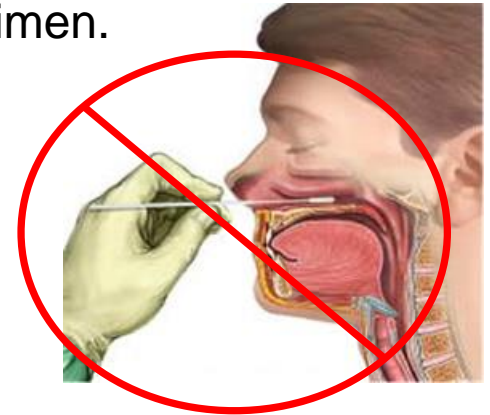
Nasal Swab AND Oropharyngeal Swab:

- If NP swabs supplies are unavailable, and patient self-collection is not feasible (i.e. infant, child, or incapacitated adult), **collection of one (1) nasal swab AND one (1) oropharyngeal swab (OP)** may be an acceptable alternative for testing at some laboratories.
 - Follow the laboratory's guidance for specimen collection, handling, and transport processes, including if nasal swab with OP swab specimen is an acceptable alternative to NP.
- After sample collection place both swabs immediately into a single sterile vial containing liquid transport media which may be viral (VTM), molecular (MTM), or universal (UTM). Please verify which type and the preferred volume with your laboratory.
- **NOTE: A nasal swab is different from a nasopharyngeal swab**
 - A nasopharyngeal swab is placed far into the back of the nasal cavity (nasopharynx), as previously described in this training.
 - A NASAL swab is inserted into the anterior (front) portion of the nostril ONLY.

It is critical to know if the supplies you will be using are for a NP swab OR a nasal swab

- A nasal swab has a thicker shaft and swab than an NP swab
- A nasal swab should **never** be used to collect an NP specimen.

CORRECT nasal swab placement



INCORRECT nasal swab placement – This image shows nasopharyngeal (NP) swab placement, which should **never** be performed with a nasal swab

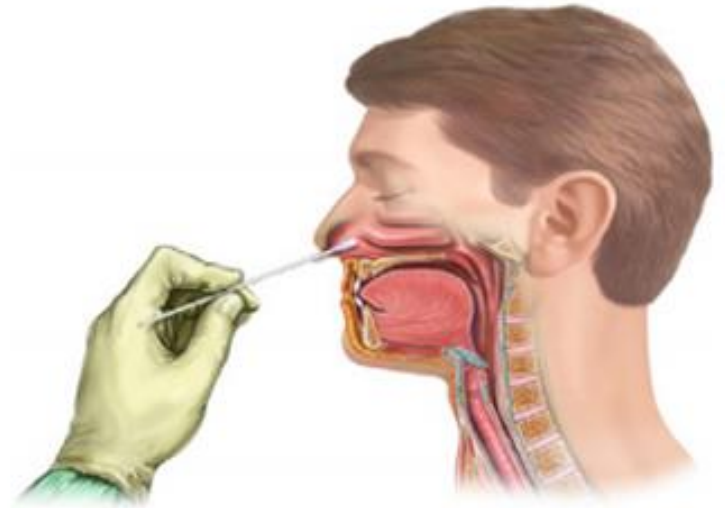
Nasal Swab:

1. Tilt patient's head back 70 degrees.
2. While gently rotating the swab, insert swab less than one inch into nostril (if you meet a point of resistance at turbinates – do **NOT** advance further).
3. Rotate the swab several times against nasal wall and repeat in other nostril using the same swab.
4. Withdraw the swab and place into the same viral transport media vial as the OP swab. Make sure liquid medium covers the swab tip.
5. Break or cut the end of the swab and screw the vial lid on **tightly**.

- Nasal Swab Procedure -

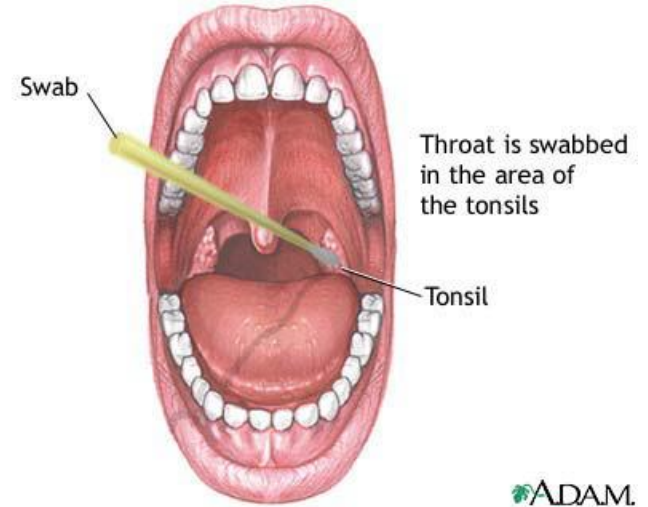
<https://www.youtube.com/watch?v=55cA9ZOdVFI>

The Joint Commission and the Centers for Disease Control and Prevention would like to thank Copan Diagnostics for their contribution in producing these instructional videos.



Oropharyngeal swab (OP):

1. Swab the posterior pharynx, avoiding the tongue.
2. Using plastic handled swab, vigorously swab both the tonsils and the posterior pharynx.
3. Place swab into the viral transport media vial, make sure liquid medium covers the swab tip.
4. Break or cut the end of the swab.
5. Screw the vial lid on tightly.



- Oropharyngeal Swab (OP) Procedure - <https://www.youtube.com/watch?v=mfZYAMDpGNk>

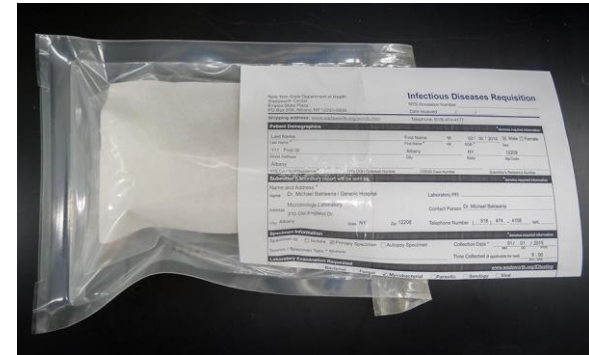
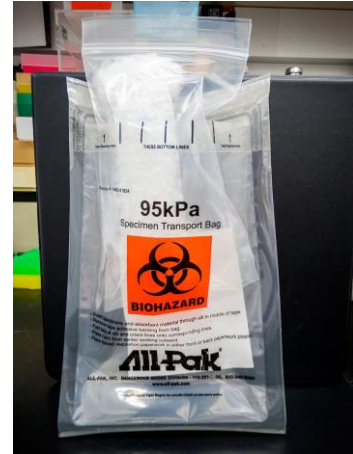
The Joint Commission and the Centers for Disease Control and Prevention would like to thank Copan Diagnostics for their contribution in producing these instructional videos.

If you have any questions about the sample collection process you are using today, speak with your on-site supervising clinician.

Specimen Packaging

For specimen packaging, follow instructions provided by your laboratory. Below are general requirements for packaging.

1. Place any vials and/or saliva specimen container into the zip-locked bag (ensure vial lid is screwed on **tightly**)
2. Insert the zip-locked plastic bag containing the specimen vial into the secondary Specimen Transport Bag containing the absorbent material.
3. Do **NOT** place any form(s) inside the plastic bag with specimen vial.
4. Remove the tape adhesive backing from the bag opening then fold bag at the slit and orient lines onto corresponding lines.
5. Press hard from center working outward to seal and close.
6. Fold and place any completed form in the paperwork pouch on the outside of the Specimen Transport Bag.



Specimen storage and transport

- Contact your laboratory for instruction on how to store and transport specimens to them.
- While in the field, place in a hard container or shipper with freezer or cold packs.
- Store specimens at 2-8°C for up to 72 hours after collection.

Process Summary

- Verbal consent
- Specimen collection:
 - Use only synthetic fiber swabs with plastic shafts. Do not use calcium alginate swabs or swabs with wooden shafts, as they contain substances that inactivate some viruses and inhibit PCR testing.
 - Place any swab(s) collected immediately into a sterile vial containing transport media.
- Specimen packaging, transport and storage

Exposure Reporting

Exposure Reporting

- If a breach in PPE occurs, IMMEDIATELY notify the on-shift clinical supervisor, duty station supervisor (if applicable), and the local health department and complete your facility's Accident Report form.
- If an employee is exposed due to a PPE breach to a person being swabbed that is later found to be infected with COVID-19, the local health department will identify and confirm the dates and times the person being swabbed was infectious.
- In the rare instance where the person being swabbed was infectious while in the presence of the employee, the local health department will contact the employee to initiate a monitoring plan.

COVID-19 Resources

NYSDOH COVID-19 Webpage

coronavirus.health.ny.gov

March 26, 2020 | 2:02 pm

Information on Novel Coronavirus

Governor Cuomo has put NY State on PAUSE: All non-essential workers are directed to work from home, and everyone is required to maintain a 6-foot distance from others in public.



Services News Government Local

Q Search

Translate

Department of Health

Individuals/Families

Providers/Professionals

Health Facilities

Questions? Call the Novel Coronavirus (COVID-19) Hotline: [1-888-364-3065](tel:1-888-364-3065) or [Ask a Question](#)

[Healthcare Providers](#) | Get Involved: [How You Can Help](#)

NY State on PAUSE

All non-essential workers are directed to work from home, and everyone is required to maintain a 6-foot distance in public.

10 POINT POLICY

ESSENTIAL BUSINESS...

SHARE   

CDC Coronavirus Webpage

www.cdc.gov/coronavirus/2019-ncov/index.html

Coronavirus Disease 2019 (COVID-19)

CDC > Coronavirus Disease 2019 (COVID-19)



Coronavirus Disease 2019 (COVID-19)

COVID-19 Situation Summary +

What You Should Know +

Travel Information +

Preventing COVID-19 Spread in Communities -

At Home

At School

At Work

First Responders

Public Health Communicators

Community Events

Universities and Colleges

Preventing COVID-19 Spread in Communities

Protect yourself and your community from getting and spreading respiratory illnesses like coronavirus disease 2019.

Americans should be prepared for the possibility of a COVID-19 outbreak in their community. The community can take measures to reduce the spread of COVID-19. Everyone has a role to play in getting ready and staying healthy.

Currently a vaccine is not available for COVID-19. Community-based interventions such as school dismissals, event cancellations, social distancing, and creating employee plans to work remotely can help slow the spread of COVID-19. Individuals can practice everyday prevention measures like frequent hand washing, staying home when sick, and covering coughs and sneezes. Click below to learn about steps to take before, during, and after any community spread of COVID-19.

How to prepare and take action for COVID-19:

At Home



Get my household ready

At Childcare and K-12 Schools



At Colleges or Universities



**For questions about
this training, contact:
OHS@health.ny.gov**