



Interim Guidelines for
Sample Collection, Handling,
Storage and Transportation
of Clinical Specimens from
Persons Suspected of
**Coronavirus Disease 2019
(COVID-19)**

Interim Guidelines for Sample Collection, Handling, Storage and Transportation of Clinical Specimens from Persons Suspected of Coronavirus Disease 2019 (COVID-19)

Scope of this Document

This document will standardize the process of proper collection, handling, storage and transportation of specimens from suspected / confirmed COVID-19 patients in different healthcare facilities (private, government and semi-government) in the State of Qatar.

Order of Laboratory Investigations that can support detection of COVID-19

- The lab order should be requested for the "COVID-19 PCR". Please state "suspected COVID-19"
- Both Nasopharyngeal swab (NPS) and Oropharyngeal Swab (OPS) are important/ required to provide full assessment.
- Collect 1 NPS sample and 1 OPS sample for each suspected patient.

Recommendations for Specimens Collection:

All patients meet case definition of suspected COVID-19 should have nasopharyngeal and oropharyngeal swabs, and, when possible, lower respiratory secretions samples such as sputum, endotracheal aspirate, or bronchoalveolar lavage collected for testing.

- Rapid collection and testing of appropriate specimens from suspected cases is a priority and should be guided by competent staff.
- If patients do not have signs or symptoms of lower respiratory tract infection or lower tract specimens are not possible or clinically indicated, both nasopharyngeal and oropharyngeal specimens should be collected and combined in a single collection container and tested together.
- Patients should also be evaluated for common causes of community-acquired pneumonia (bacterial or viral such as influenza A and B, respiratory syncytial virus, Streptococcus pneumoniae, Hemophilus influenzae and Legionella pneumophila). This evaluation should be based on clinical presentation and epidemiologic and surveillance information.

- If initial testing of a nasopharyngeal swab is negative in a patient who is strongly suspected to have COVID-19 infection, patients should be retested using a lower respiratory specimen or, if not possible, a repeat nasopharyngeal and oropharyngeal specimen.
- In a patient with suspected COVID-19, especially with pneumonia or severe illness, a single Upper respiratory tract (URT) sample does not exclude the diagnosis, and additional URT and Lower respiratory tract (LRT) samples are recommended.
- Sputum induction should be avoided due to increased risk of increasing aerosol transmission.
- When serological assays become available, WHO recommends that a paired acute and convalescent sera for antibody detection should also be collected where possible (for surveillance and research purposes).
- Collect blood cultures for bacteria that cause pneumonia and sepsis, ideally before antimicrobial therapy. DO NOT delay antimicrobial therapy to collect blood cultures.
- A positive alternate pathogen does not necessarily rule out COVID-19 infection, as little is yet known about the role of coinfections.
- Health Care workers (HCWs) who collect specimens follow the IPC guideline and use the adequate PPE: eye protection, surgical mask, long-sleeved gown, gloves. If it is suspected that sample collection may generate aerosol, personnel should wear a particulate respirator at least as protective as a NIOSH-certified N95, EU FFP2 or equivalent.

Important considerations for collection of NPS/OPS Specimens:

- Only Competent and qualified staff should perform the swabbing for subjected cases after receiving training and proving competency.
- The number of HCW present during the procedure should be limited to only those essential for patient care and procedure support. Visitors should not be present for the procedure.
- Specimens collection ideally take place in a separated designated negative pressure room, if not available the designated swabbing room should be well ventilated, with a self-closing door and HEPA filters
- Clean and disinfect procedure room surfaces promptly, the frequently touched surfaces to be cleaned and disinfected after every patient
- HCWs who collect, or transport clinical specimens should adhere rigorously to infection prevention and control guidelines and national or international regulations for the transport of dangerous goods (infectious substances) to minimize the possibility of exposure to pathogens

- ONLY staff who are fit tested for N95 mask can proceed to perform the swabbing.
- Use appropriate Personal Protection Equipment (PPE) for specimen collection as per National appropriate use of PPE guideline.
- When collecting URT samples, use viral swabs (sterile Dacron or rayon, not cotton) and viral transport media.
- All specimens collected for laboratory investigations should be regarded as potentially infectious
- Do not sample the nostrils or tonsils

Material Required

- All PPEs as per the national Guideline for proper use of PPE (add link)
- Tongue Depressor
- Universal Transport Medium (UTM) with two swabs. Normally available in one packet with the medium, OPS swab (thick in size) and NPS swabs (thin in size)
- Biohazard bag
- Sample labeling /Information to be recorded: sample should be labeled with
 - o Patient information – name, date of birth, sex and residential address, HC/QID, other useful information (e.g. surveillance identification number, name of hospital, hospital address, room number, physicians' name and contact information, name and address for report recipient)
 - o Date and time of sample collection,
 - o Anatomical site and location of specimen collection,
 - o Tests requested,
 - o Clinical symptoms and relevant patient history (including vaccination and antimicrobial therapies received, epidemiological information, risk factors.

Oropharyngeal specimen collection

- Oropharyngeal Swab has to be collected first.
- Wash Your hands based up on WHO 5 moments of hand hygiene and follow proper hand hygiene technique.
- Wear appropriate Personal Protection Equipment (PPE) for specimen collection as per National appropriate use of PPE guideline
- Place the patient in a comfortable position and Explain the procedure to the patient.
- Remember to avoid contact with uvula, tongue, or cheeks when taking swab.
- Open the UTM pack and pick out the OPS swab (usually thicker than the other swab).
- Remove the swab from its pouch.

- Ask the patient to tilt the head back and to open the mouth.
- Using a tongue depressor, press the tongue down.
- Locate the oropharynx by asking the patient to say `ahh`.
- Roll the swab over oropharynx with mild pressure.
- Insert the tips of swabs and scrub the pharyngeal tonsils both sides and posterior pharyngeal wall,
- Open the UTM tube container and place the swab immediately into the preservative medium
- Break off top of swab against the tube rim at the score line (usually red color mark) and let the swab fall into the tube.
- Discard the remaining tip appropriately and Tightly recap and close the tube.

Nasopharyngeal specimen collection

- Open the Naso-pharyngeal swab from its pouch.
- Tilt patient's head back 70 degrees.
- Place finger on the tip of patient's nose and depress slightly.
- Insert the swab through the nostril parallel to the palate (not upwards) until resistance is encountered or the distance is equivalent to that from the ear to the nostril of the patient, indicating contact with the nasopharynx.
- Swab should reach depth equal to distance from nostrils to outer opening of the ear.
- Once resistance is met (the swab into the pharynx relatively easily), rotate the swab several times (for 5 sec) and withdraw the swab.
- It is not necessary to collect specimens from both sides if the swab is saturated with fluid from the first collection (if not, use the same swab for the other nostril)
- If a deviated septum or blockage create difficulty in obtaining the specimen from one nostril, use the same swab to obtain the specimen from the other nostril.
- Open the UTM Tube Container and place the swab immediately into the preservative medium
- Break off top of swab against the tube rim at the score line (usually red color mark) and let the swab fall into the tube.
- Discard the remain tip appropriately.
- Tightly recap and close the tube.
- Label the UTM tube container with the patient's medical record number, Name & laboratory requisition number, specimen type (e.g. NPS/OPS) and the date the sample was collected.

- Place the labelled tube in a biohazard bag (Double bag), seal it and then place it into the specimen transport box.
- Remove PPE and discard it based up on waste management policy (PPE Doffing).

Transportation & Storage of NPS /OPS Specimens

- Specimens should reach the laboratory as soon as possible after collection. It is important to avoid repeated freezing and thawing of specimens.
- Notify the laboratory as soon as possible that the specimen is being transported.
- Send specimen at 2-8 C to the facility laboratory immediately for the further process of transportation or storage
- The specimen should be transported in a biohazardous bag with proper labeling and orders to the health center laboratory
- Specimens stored at 2-8°C for up to 72 hours after collection are stable for testing.
- If the health center laboratory (Periphery healthcare facility or late night) decided to store the NPS / OPS sample in the laboratory storage, that has to be communicated back to the treating team to arrange contingency plan for the patient hold in the facility.
- Specimen box's temperature should be maintained and documented before, during and before endorsing to the HMC laboratory identify time of transportation to HMC lab within 24hrs
- Label each specimen container with the patient's medical record number, Name & laboratory requisition number, specimen type (e.g. NPS/OPS) and the date the sample was collected.
- Clean and disinfect the transportation box with 70% alcohol or according to manufacturer's instruction.

References

- <https://covid19.moph.gov.qa/EN/Pages/default.aspx>
- <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technicalguidance>
- <https://www.cdc.gov/coronavirus/2019-nCoV-ILI%20sampling>

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