



**Nigeria Centre for Disease Control
National Reference Laboratory, Gaduwa
Federal Capital Territory, Abuja**

TITLE: Specimen Collection, Packaging and Transportation for SARS-CoV-2 testing	Original Date: 24-07-2020
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Section: Public Health Laboratories of all 36 States of Nigeria plus FCT and Partner Laboratories	Page: 1 of 7

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* To be hand-written to indicate approval

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TITLE: Specimen Collection, Packaging and Transportation for SARS-CoV-2 testing	Effective Date: 24-07-2020
Document Number: SOP-NCOV-009	Version: 1.0
Section:	Page: 2 of 7

Scope: To be used by government and non-government health authorities, health facilities, clinicians, laboratories and public health practitioners in collection, packaging and transporting suspected and confirmed infectious samples of COVID-19 for individuals meeting the case definitions for diagnosis in Nigeria.

Purpose: This document describes the process of collecting specimens from patients suspected of COVID-19 and the transportation of collected samples to the indicated testing laboratories.

Sample collection requirements: PPE (Apron, hand gloves, face shield and N95 Masks), Nasal and oropharyngeal swabs, tongue depressor, viral transport medium, centrifuge tube, zip-loc bag, hand sanitizer, secondary container, hard frozen gel packs, case investigation form, sample transportation form (if sample is to be transported), marker, disinfectant, and hard card box/transport box.

Sample packaging requirements: PPE (Apron, hand gloves, face shield), viral transport medium, centrifuge tube, zip-loc bag, biohazard label, secondary container, hard frozen gel packs, Gio-style carrier, sample transportation form, marker, disinfectant, and hard card box/transport box.

Case investigation forms should be filled AND specimen collection containers should be labelled before sample collection.

Note: Please note that the N95 masks have to be fit tested and seal checked each time it is worn. If the same person who collected the sample is responsible for packaging, continue the process, without touching any part of your PPE and only don off after sample has been completely packaged in giostyle.

Section 1: Labelling specimens for Transport

- 1) Label VTM tube and any other sample tube with the following:
 - Name of patient (First name first, then surname)
 - Hospital number/Epid number
 - Sex (F or M)
 - Date (dd/mm/yy)
- 2) State the full name (first name first, then surname), date of birth of the suspected COVID-19 case, date of symptoms onset, date of sample collection and all other required information, clearly on the accompanying request form and the case investigation form (CIF).
- 3) Note the date and time of pick-up on the specimen tracking form.

TITLE: Specimen Collection, Packaging and Transportation for SARS-CoV-2 testing	Effective Date: 24-07-2020
Document Number: SOP-NCOV-009	Version: 1.0
Section:	Page: 3 of 7

Section 2: Sample collection procedure

One nasal swabs and one oropharyngeal swab (1 of each type) are the preferred specimen type. Sputum (if it can be produced) can be collected as an additional specimen type, in a separate sterile container. Only synthetic fiber swabs with plastic shafts should be used (*Calcium alginate swabs or swabs with wooden shafts may contain substances that inactivate some viruses and inhibit PCR testing*)

The procedure below must be conducted in well ventilated rooms ensuring the number of persons in the room is limited (a well ventilated room, where the air flows from the healthcare worker towards the patient to the outside and which also does not flow into other areas where people are in the health facility.

Only persons needed for sample collection, properly donned in appropriate PPEs should be in the room at this time.

1) Donn Personal Protective Equipment (PPE)

Clinicians/ Laboratorian **MUST** wear long sleeve apron/lab coat, hand gloves, face shield and N95 Masks before collecting COVID-19 samples. In combination with a face-shield, and hands are cleaned with soap and water or an alcohol-based hand sanitizer before and after donning PPE.

Please note that PPE should not be adjusted once it is worn and the procedure commenced, otherwise, the HCW may run the risk of self-infection

2) Collect sample

a) Nasal Swab: Insert swab into the nostril parallel to the palate. Leave the swab in place for a few seconds to absorb secretion. Both nostrils should be swabbed with the same swab.

b) Oropharyngeal swab: Have the patient open his/her mouth wide open. Using a wooden tongue depressor, depress the tongue and swab the posterior pharynx, avoiding the tongue.

Only nasal and oropharyngeal swabs is recommended for COVID19 laboratory testing in Nigeria. However, sputum, bronchoalveolar lavage and tracheal aspirate can be collected as additional samples and used to diagnose COVID-19.

3) Place nasal and oropharyngeal swabs into a single sterile tubes containing 2-3 ml of viral transport media (VTM) immediately after collection.

If sputum, bronchoalveolar lavage or endotracheal aspirate is collected, please collect in a sterile sample tube

4) Label sample correctly and appropriately

5) Store samples at 4 °C for ≤5 days and -70 °C for >5 days in the fridge and refrigerator respectively.

If samples are to be transported immediately, please move to section 3.

TITLE: Specimen Collection, Packaging and Transportation for SARS-CoV-2 testing	Effective Date: 24-07-2020
Document Number: SOP-NCOV-009	Version: 1.0
Section:	Page: 4 of 7

If samples are to be packaged by a different individual, please transfer and continue with steps 7 and 8.

- 6) Doff PPE (in the correct sequence –gloves, gown, face shield, N95 mask). **Ensure to perform hand hygiene after removing each PPE**
- 7) Wash hands with soap under running water

Section 3: Sample packaging procedure

Samples should be packed in triple container packing and transported under cold chain to the reference laboratory as described below:

- 1) Apron/lab coat, hand gloves, face shield and N95 Masks must be worn during COVID-19 sample packaging.
- 2) Wrap the VTM tube containing the nasal and oropharyngeal sample in an adsorbent material that can absorb the content of the VTM tube in the event of breakage or spillage. Where an adsorbent rack-style holder is unavailable, cotton balls, tissue paper, paper towel, styro-foam may be used as adsorbent material. A cello tape should be used to hold the absorbent material in place if the material sits loosely.
- 3) Place the VTM tube wrapped in adsorbent material in a leak-proof secondary container. A falcon tube should be used as a secondary container. A universal bottle may be used as secondary container where falcon tubes are not available.
- 4) Place the falcon tube in a zip-lock bag and attach a biohazard sign on the zip-lock bag.
- 5) Place the zip-lock bag into another airtight, sturdy container (e.g. Bio-bottle).
- 6) Place the sturdy container into gio-styles ensuring the specimen is **surrounded (bottom and sides) by hard frozen gel packs or ice packs** to make certain the sample is preserved during transport. COVID-19 specimen should be transported at 4 °C for ≤5 days and -70 °C for >5 days.
- 7) Disinfect the gio-style (cool box).
- 8) Place the gio-styles into a hard card box container and disinfect again.

TITLE: Specimen Collection, Packaging and Transportation for SARS-CoV-2 testing	Effective Date: 24-07-2020
Document Number: SOP-NCOV-009	Version: 1.0
Section:	Page: 5 of 7

8) Doff PPE (in the correct sequence, gloves, gown, face shield, N95 mask). ***Ensure to perform hand hygiene after removing each PPE***

9) Wash hands with soap under running water

4) Call TRANEX for sample pickup. To invite TRANEX for pick-up, call any of the following numbers telling them explicitly what sample needs to be transported, from which location, and to which laboratory.


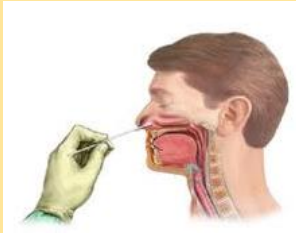
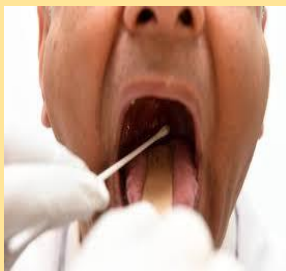


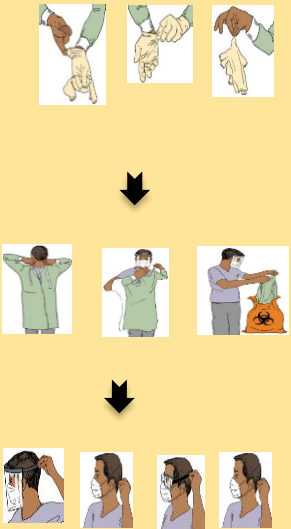
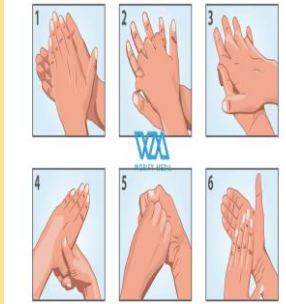
- 08181055406
- 09070360007
- 08034990971
- 09070360001
- 07061939703
- 09070360092

10) Notify the testing laboratory as soon as the specimen is handed over to TRANEX.

NATIONAL REFERENCE LABORATORY

TITLE: Specimen Collection, Packaging and Transportation for SARS-CoV-2 testing	Effective Date: 24-07-2020
Document Number: SOP-NCOV-009	Version: 1.0
Section:	Page: 6 of 7

Procedure for COVID 19 sample collection in pictures

<p>1. Wear complete PPE</p> 	<p>2a. Nasal Swab: Insert swab into the nostril parallel to the palate and swirl for few seconds</p> 	<p>2b. Oropharyngeal swab: Have patient open his/her mouth, depress tongue using wooden depressor and swap the posterior pharynx avoiding the tongue</p> 	<p>3. Place nasal and/or oropharyngeal swabs into previously labelled sterile tubes containing 2-3 ml of viral transport media (VTM) immediately after collection.</p> 
<p>4. Store samples at 4 °C for ≤5 days and -70 °C for >5 days.</p> 	<p>5. Donn and duff PPE</p> 	<p>7. Wash your hands after donning and duffing PPE</p> 	

TITLE: Specimen Collection, Packaging and Transportation for SARS-CoV-2 testing	Effective Date: 24-07-2020
Document Number: SOP-NCOV-009	Version: 1.0
Section:	Page: 7 of 7

Procedure for COVID-19 sample packaging in pictures

<p>1. Use complete PPE</p> 	<p>2. Place swabs in sterile VTM</p> 	<p>3. Wrap the VTM tube in an adsorbent materials</p> 	<p>4. Place wrapped VTM tube in centrifuge tube</p> 
<p>5. Place centrifuge tube in ziplock bag and place biohazard label</p> 	<p>6. Place ziplock bag in airtight sturdy container</p> 	<p>7. Place sturdy container in geostyle and surround with hard frozen gel packs</p> 	<p>8. Disinfect geostyle</p> 
<p>9. Place geostyle into hard card container box and disinfect again</p> 			