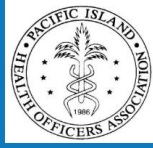


COVID-19 Testing Algorithm

GeneXpert Systems

Date: 19 March 2021



Pacific Community
Communauté du Pacifique



World Health Organization
Representative Office for the South Pacific

COUNTRIES WITH NO KNOWN CASE OF COVID-19 and patient has no travel history
WHO ILI and SARI Case Definition

- ILI case definition**
An acute respiratory infection with:
- measured fever of $\geq 38\text{ C}^\circ$
 - and cough;
 - with onset within the last 10 days.
- SARI case definition**
An acute respiratory infection with:
- History of fever or measured fever of $\geq 38\text{ C}^\circ$;
 - and cough;
 - with onset within the last 10 days;
 - and requires hospitalization

COUNTRIES WITH KNOWN CASE OF COVID-19 and/or countries with no known case yet patient has travel
WHO COVID-19 Case Definition

1. Acute respiratory illness (fever and at least one sign/symptom of respiratory disease, e.g., cough, shortness of breath), AND a history of travel to or residence in a location reporting community transmission of COVID-19 disease during the 14 days prior to symptom onset.
OR
 2. Acute respiratory illness AND having been in contact with a confirmed or probable COVID-19 case (see definition of contact) in the last 14 days prior to symptom onset;
OR
 3. Severe acute respiratory illness (fever and at least one sign/symptom of respiratory disease, e.g., cough, shortness of breath; AND requiring hospitalization) AND in the absence of an alternative diagnosis that fully explains the clinical presentation
OR
- Shortness of breath (SOB) and not in SARI case definition

For the updated clinical, epidemiological, probable and confirmed COVID-19 Case Definition, click on this link https://www.who.int/publications/i/item/WHO-2019-nCoV-Surveillance-Case-Definition-2020.2?fbclid=IwAR2GceqrM4o35uYTE4gchufNDkRHAMuJNAIgx-kne3z_ZShkUIQXjRss5k

Collect NPS & Place in UTM tube. Place UTM in Zipped-locked bio hazard bags

Use Biobottle and IATA shipping procedure if specimen is to be transferred via road, sea or air

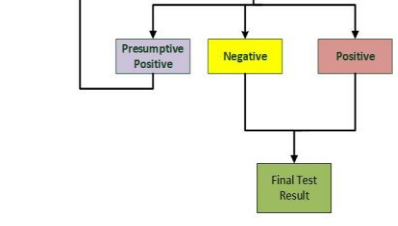
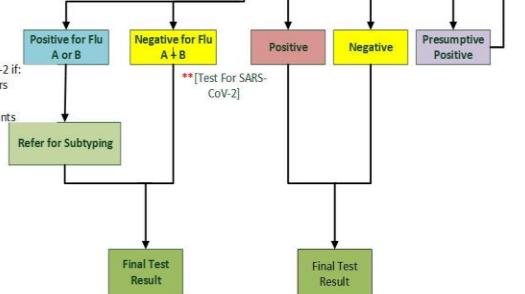
Collect NPS & Place in UTM tube. Place UTM in Zipped-locked bio hazard bags
For nasal aspirate or washings, collect 3-ml into sterile screw-capped container & place in zipped-locked biohazard bags.

Pooling should **NOT** be used if there is significant surplus of cartridges. Priority be given to near-expiry cartridges. Maintain minimum stock for potential outbreak use.

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- Veritor FLU A + B
- Other Influenza RDTs
- GeneXpert Testing - SARS-CoV-2
- BioFire - SARS-CoV-2

- RT-PCR Testing - SARS - CoV-2/ FLU A + B/RSV
- GeneXpert Testing - SARS-COV-2
- BioFire - SARS-CoV-2



- * Test For SARS-CoV-2 if:
 - Front Line Workers
 - HCWs
 - SARs/ARDS patients

** [Test For SARS-CoV-2]

Important Notes:

1. Considerations around GeneXpert vs RT-PCR:

- Consideration around supply reagents for each test
 - GeneXpert cartridges = prioritize when ≤ 3 months to expiry
 - RT-PCR = check extraction supplies, enzyme, primers and probes and plasticware for >50 or < 50 samples/day
- Small scale testing <50 samples/day:
 - GeneXpert with or without sample pooling (depending on supply and stocks of GeneXpert)
 - RT-PCR with manual or automated extraction
- Large scale testing >50 samples/day:
 - GeneXpert with sample pooling
 - RT-PCR with automated extraction

2. If SARS-CoV-2 not detected and clinical diagnosis required = run Biofire (>15 targets in one test)

- If real time RT-PCR is available in country for influenza testing, we would recommend this is also performed prior to proceeding to BioFire. If this testing capacity is not available in country, proceed to BioFire if negative for SARS-CoV-2 and clinical diagnosis is required.

3. Pool testing:

- Read and follow Pool Sample testing protocol that has been shared to PICTs Laboratories.
- Do pool testing in countries or communities where there is low prevalence of COVID-19 infection.
- Maintain a maximum of 4 sample pooling to avoid sensitivity loss of the assay.

4. Result of SARS-CoV-2 testing provided with interpretation of Ct values:

- Provide SARS-CoV-2 results as “Detected” or “Not Detected” with type of testing platform. Ct values can be provided if required or if it is the in-country reporting protocol. However, if additional information/interpretation is required then advise to consult laboratory.

Note: This is an updated version with additional information based on the availability of different ILI and COVID-19 testing platforms. The previous version of this document can be found [here](#)

This document has been developed in accordance with global guidance and contextualized to the Pacific context by the, Pacific Island Health Officers Association (PIHOA), Pacific Community (SPC), United Nations Development Programme (UNDP) and the World Health Organization (WHO) from the COVID-19 Pacific Joint Incident Management Team