UN Medical Directors
COVID-19 Testing Recommendations for UN Personnel
24 November 2020

Background

COVID-19 tests can be used for diagnosis, screening and/or policy-orientated surveillance purposes. This UN Medical Directors’ document provides guidance to UN health care workers on the use of COVID-19 tests¹ and how to prioritize testing of UN personnel based on health objectives. This document is based on WHO guidelines² ³, and will be updated as new information becomes available.

Please always consider local health authorities / WHO office guidance when implementing this guidance. For any questions on the material presented here, email DHMOSH’s public health section at dos-dhmosh-public-health@un.org

Key Notes on COVID-19 Diagnostic Testing

- There are three types of tests for COVID-19:
  1. Reverse transcription polymerase chain reaction (rT-PCR) test
  2. Antigen detection rapid diagnostic tests (Ag-RDT)
  3. Antibody detecting (IgM/IgG) rapid diagnostic tests (Ab RDT)
- This document refers primarily to rT-PCR and Ag RDT testing. If Ag-RDTs are available in your duty station, please refer to Annex 1.
- Please be aware that antibody tests are NOT recommended to be used as standalone diagnostic test to identify active infection. Antibody tests are commonly used for surveillance and research purposes. See here for more information on its limitations.
- Information on specimen collection for both rT-PCR tests and Ag-RDTs is available in Annex 2.

Who Should Be Prioritized for COVID-19 Testing⁴?

The below describes which UN personnel should be prioritized for testing according to health objectives⁵.

1st Priority: Individuals with Symptoms Consistent with COVID-19

- Individuals with symptoms consistent with COVID-19 infection (e.g. fever, respiratory symptoms or shortness of breath) should be prioritized for testing. See here for WHO guidance on which symptoms are compatible with COVID-19.

¹ Note that testing does not replace other infection prevention and control (IPC) recommendations.
² Available at https://www.who.int/publications/i/item/diagnostic-testing-for-sars-cov-2
³ https://www.who.int/publications/i/item/antigen-detection-in-the-diagnosis-of-sars-cov-2infection-using-rapid-immunoassays
⁴ Health care workers (HCW) are encouraged to consider testing for other causes of respiratory illness, such as influenza, in addition to testing for COVID-19. Testing for other pathogens based on differential diagnosis such as malaria, typhoid etc may also be warranted.
⁵ Note that administrative testing requirements vary from country to country and are not covered in this document. Examples include testing mandated by airlines for travel purposes, by host country for entry/exit, by host country for declaration of “recovery” of cases, by Organisation for return-to-work purposes.
2nd Priority” “High-Risk” Contacts

- All COVID-19 contacts identified should be strictly quarantined for 14 days. According to WHO, all asymptomatic contacts can be managed in quarantine without the requirement of COVID-19 testing.

- If testing resources permit, however, “high risk” contacts\(^6\), including health care workers\(^7\), and other “high-risk”\(^8\) individuals with co-morbid conditions who may require hospitalization/advanced care, could be considered for additional testing\(^9\). Please consult with your local health authorities’, local WHO office, DHMOSH public health section when making this decision.

- Note that negative test results from a contact should not be used to shorten the quarantine period or date of re-entry to the workplace as there is always a possibility of the contact becoming ill anytime within the incubation period of 2 to 14 days.

- Conversely, any contacts who turn out to have a positive test result for COVID-19 (regardless symptomatic or not), is considered as a lab confirmed “case”, and should be immediately isolated upon diagnosis. If these individuals were previously quarantined as part of a cohort, then for the cohort that was quarantined, the clock resets to day 0 due to their exposure to this new “case”, and the process is repeated. For example, if individual A is exposed and enters into a quarantine facility with a roommate, and then the roommate tests positive on the 4\(^{th}\) day, the clock will restart and individual A will be quarantined for another 14 days.

- The WHO does not recommend testing contacts at the end of their 14-day quarantine period in order to “discharge” them from quarantine. Contacts can be released from quarantine after the 14 days have passed.

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\(^6\) WHO’s definition of a “contact” is available at [https://www.who.int/publications/i/item/who-2019-nCoV-surveillanceguidance-2020.7](https://www.who.int/publications/i/item/who-2019-nCoV-surveillanceguidance-2020.7)

\(^7\) [https://www.who.int/publications/i/item/10665-336265](https://www.who.int/publications/i/item/10665-336265)

\(^8\) [https://www.who.int/publications/i/item/clinical-management-of-covid-19](https://www.who.int/publications/i/item/clinical-management-of-covid-19)

\(^9\) There is no guidance available regarding how long after initial exposure should such a “high-risk” contact be tested. If one wishes to test a “high-risk” contact, it may be reasonable to test around 5-7 days after exposure, or if testing capacity allows, tests can be performed at staggered intervals.
ANNEX 1: USE OF COVID-19 ANTIGEN RAPID DIAGNOSTIC TESTS

- Antigen rapid diagnostic tests (Ag-RDTs) directly detect the presence of a specific viral antigen, indicating active infection. Such tests can be an easier and less expensive test, and provide quicker results (e.g. in 10-30 minutes) compared to rT-PCR to use for widespread testing. When access to rT-PCR testing is limited, Ag-RDTs enables fast, decentralized access to direct testing of the virus, relieving the burden on the laboratory testing system.

- In general, SARS-CoV-2 Ag-RDT tests used to diagnose COVID-19 infection should meet the minimum performance requirements of >80% sensitivity and >97% specificity, particularly in settings where rT-PCR testing is limited/unavailable, or where it is available but with prolonged turnaround times. See here to view the list of Ag-RDTs that have received WHO Emergency Use Listing (EUL) for SARS-CoV-2.

- Ag-RDTs are more likely to perform well in individuals with high viral loads, which is typically in the pre-symptomatic phase (1-3 days before symptom onset) and early symptomatic phases (first 5-7 days of illness). The UN Medical Directors therefore recommend that use of Ag-RDTs be limited to diagnostic testing performed on symptomatic persons within the first 5-7 days of symptom onset. Ag RDTs are not reliable in asymptomatic individuals.

- WHO describes other types of scenarios where use of Ag RDTs could be considered (Table 1).

Table 1. Appropriate Scenarios For Use Of COVID-19 Ag-RDTs

<table>
<thead>
<tr>
<th>Scenarios for use of SARS-CoV-2 Ag-RDT</th>
<th>Population Recommended to be screened</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outbreak response</td>
<td>To respond to suspected outbreaks of COVID-19 in remote settings, institutions and semi-closed communities where NAAT is not immediately available.</td>
</tr>
<tr>
<td>Outbreak investigation/Contact tracing</td>
<td>To support outbreak investigations (e.g. in closed or semi-closed groups including schools, care-homes, cruise ships, prisons, workplaces and dormitories, etc.) and to screen at-risk individuals.</td>
</tr>
<tr>
<td>Monitor trends in disease incidence</td>
<td>To monitor trends in disease incidence in communities, and particularly among essential workers and health workers during outbreaks or in regions of widespread community transmission</td>
</tr>
<tr>
<td>Community Transmission Screening</td>
<td>Where there is widespread community transmission, RDTs may be used for early detection and isolation of positive cases in health facilities, COVID-19 testing centers/sites, care homes, prisons, schools, front-line and health-care workers and for contact tracing.</td>
</tr>
<tr>
<td>Testing of Asymptomatic contacts</td>
<td>Testing of asymptomatic contacts of cases may be considered even if the Ag-RDT is not specifically authorized for this use</td>
</tr>
</tbody>
</table>

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10 Additional reference for this Annex includes:
WHO - [https://www.who.int/publications/i/item/diagnostic-testing-for-sars-cov-2](https://www.who.int/publications/i/item/diagnostic-testing-for-sars-cov-2)
• The sensitivity of rapid antigen tests is generally lower than rT-PCR. Therefore, in the event that a negative Ag-RDT result is received\textsuperscript{12}, regardless if the patient is symptomatic or not, a negative Ag-RDT test should always be confirmed with a PCR test where possible.

• False positives are quite rare using current Ag-RDTs in settings of widespread community transmission, and therefore do not need to be confirmed by a RT-PCR test.

• WHO also highlights the following six scenarios in which Ag RDTs should not be used without rT-PCR confirmation of positive results.

\textbf{Table 2. Situations where SARS-CoV-2 Ag-RDTs should not be used, based on currently available information}\textsuperscript{13}

<table>
<thead>
<tr>
<th>Do not use SARS-CoV-2 Ag-RDTs:</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>In individuals without symptoms unless the person is a contact of a confirmed case</td>
<td>Pre-test probability (the likelihood, before testing, that the patient has the disease based on epidemiology, case contact, clinical findings) is low.</td>
</tr>
<tr>
<td>Where there are zero or only sporadic cases</td>
<td>Ag-RDTs are not recommended for routine surveillance purposes or case management in this setting. Positive test results would likely be false positives. Molecular testing is preferred.</td>
</tr>
<tr>
<td>Appropriate biosafety and infection prevention and control measures (IPC) are lacking</td>
<td>To safeguard health workers, respiratory sample collection for any test from patients with suspected COVID-19 requires that operators wear gloves, gown, mask and face shield or goggles (19, 22, 23).</td>
</tr>
<tr>
<td>Management of the patient does not change based on the result of the test</td>
<td>If test-positive and test-negative patients will be treated the same way because of unknown or low PPV and/or NPV, then there is no benefit to testing.</td>
</tr>
<tr>
<td>For airport or border screening at points of entry</td>
<td>Prevalence of COVID-19 will be highly variable among travellers, and it is therefore not possible to determine PPV and NPV of test results. Positive and negative tests would require confirmatory testing to increase PPV and NPV for decision making.</td>
</tr>
<tr>
<td>In screening prior to blood donation</td>
<td>A positive RDT result would not necessarily correlate with presence of viremia. Asymptomatic blood donors do not meet the definition of a suspect case (24).</td>
</tr>
</tbody>
</table>

\textsuperscript{12} Nevertheless, it should be noted that evidence suggests that patients with COVID-19 infection who are not detectable by a high-quality Ag-RDT are less likely to be infectious (because of a lower burden of virus in the respiratory tract).

\textsuperscript{13} WHO Reference: https://www.who.int/publications/i/item/antigen-detection-in-the-diagnosis-of-sars-cov-2-infection-using-rapid-immunoassays
ANNEX 2: SPECIMEN COLLECTION FOR COVID-19 TESTING

Always consult the manufacturer’s insert to see what the specimen collection requirements are. In all cases, the instructions for use of any test provided by the manufacturer should be followed.

Facilities should also refer to WHO laboratory guidance available here

Specimen Type

For rT-PCR: Nasopharyngeal swabs are recommended. Less commonly, the test can also be done on a bronchoalveolar lavage fluid or deep sputum.

For Ag-RDTs: Nasopharyngeal swabs are recommended for most Ag RDTs. In all cases the instructions for use of the test provided by the manufacturer should be followed.

PPE Use and Infection Prevention and Control during Specimen Collection

Consider the following when collecting diagnostic respiratory specimens from a person with possible COVID-19:

- Procedure should be performed in a medical isolation space or other designated space with the door closed.
- Staff in the room should wear a filtering facepiece respirator (e.g. N95 mask or FFP2 or FFP3 standard, or equivalent), eye protection, gloves, and a gown.
- Only staff who are essential to collect the specimen should be present.
- Surfaces should be cleaned and disinfected in the room where specimens are collected.
- Whenever possible, collection room should be ventilated between one patient and next.

For any questions on this guidance, email DHMOSH’s public health section at dos-dhmosh-public-health@un.org