



LABORATORY TESTING FOR COVID-19

Advice on the role of rapid /serological testing

27 March 2020

Outbreak Response Unit, Division of Public Health Surveillance and Response
National Institute for Communicable Diseases (NICD)
24-hour hotline number: 082-883-9920

At this moment in time, diagnosis of COVID-19 should be made by diagnostic tests that detect the COVID-19 virus itself or genetic material from the virus^{1,2}. These tests are based on PCR methodology. A number of these tests have been made available on automated or semi-automated testing platforms by diagnostic companies including Roche, ThermoFisher, Seegene and Cepheid. These tests must be done in a specialised molecular laboratory, and have a turn-around time of 24-48 hours. The GeneXpert test (Cepheid[®]) is a molecular test that has a slightly faster processing time (just over one hour compared to four hours). It is often referred to as a point of care test, but it requires specialised machinery and therefore is not suitable for use at the bedside.

Rapid tests that are being offered for the diagnosis of COVID-19 are not suitable for the diagnosis of COVID-19². These most commonly test for the presence of IgM and IgG antibodies to the virus. They are not helpful to guide decision making regarding patient management, decisions regarding the need for quarantine, isolation or contact tracing.

The serological response to the virus causing COVID-19 (SARS-CoV-2) is not well characterised nor understood, as yet¹. Typically antibodies may only increase later in the course of illness ranging from five to six days after infection or following the onset of symptoms. In addition, the antibodies that are detected by these rapid test kits may not be specific for the virus causing COVID-19. Serological assays may be useful for cross-sectional studies that assess population exposure and immunity levels². These tests are therefore not currently recommended for the diagnosis of COVID-19.

¹ Laboratory testing for coronavirus disease (COVID-19) in suspected human cases. WHO Interim guidance, 19 March 2020. <https://www.who.int/publications-detail/laboratory-testing-for-2019-novel-coronavirus-in-suspected-human-cases-20200117>

² Laboratory testing strategy recommendations for COVID-19. WHO Interim guidance, 22 March 2020. https://apps.who.int/iris/bitstream/handle/10665/331509/WHO-COVID-19-lab_testing-2020.1-eng.pdf