



Epidemiology Unit

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Epidemiology Unit position on COVID-19 –SARS CoV-2 testing methods for diagnosis in outbreak control and prevention

Epidemiology Unit considers that early case detection and diagnosis by laboratory confirmation at early stages of the infection is crucial for the prevention of COVID-19 transmission in the community.

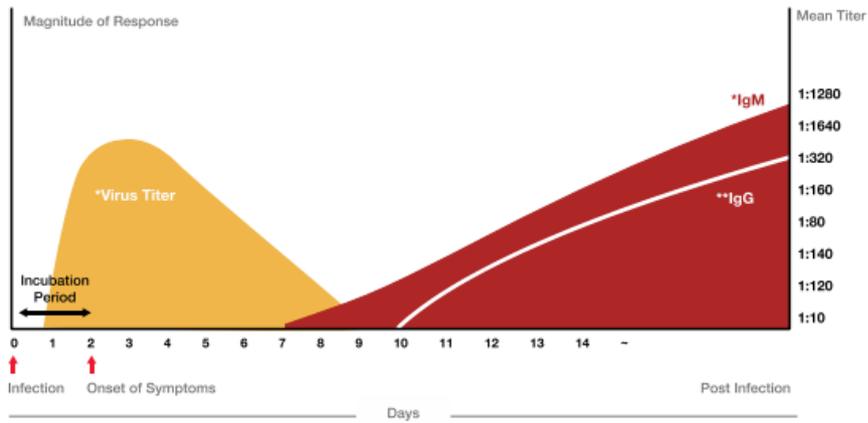
The WHO recommends PCR assay as the test for identification of SARS CoV-2 – the causative agent of the current COVID-19 pandemic. The detection rate by PCR explained as ranging between 60-75% is based on the variations of specimen type, collection method and possible sample collector/ investigator variability.

Detection of IgM/IgG antibodies to diagnose SARS CoV-2 has been considered in some countries. It has the advantage as a convenient method of generating results and also as a point of care test and in some instances where adequate PCR facilities for virus detection are not available.

The current evidence shows that majority of patients develop antibodies in detectable levels to COVID-19 infection 7 to 10 days or more after onset of symptoms. Therefore, these rapid antibody tests have no value in early case detection. Negative test results in early phase of the disease may provide false assurance tempting to relax control measures such as self-isolation by contacts which can contribute to aggravate any community transmission.

The limited value of antibody tests for the early diagnosis of COVID-19 infection is clearly explained in the graph below, plotted by the Royal College of Pathologists in Australia based on the available published evidence.

Disease and Reaction Time



The timing and level of antibodies is uncertain after SARS-CoV-2 infection, and varies between patient populations. This graphic depicts one scenario based on the limited published evidence.



Therefore, antibody detection tests will not be an alternative for PCR tests for early case detection preventing community transmission and PCR test remains the test of choice for the early diagnosis of acute COVID-19 infection.