Summary of Covid 19 Testing April 30, 2020

why test for covid-19 now?

1. To determine the state of an individual's immune response to exposure

2. To assess whether an individual is contagious and needs to be quarantined

3 To facilitate contact raising and reduce viral spread

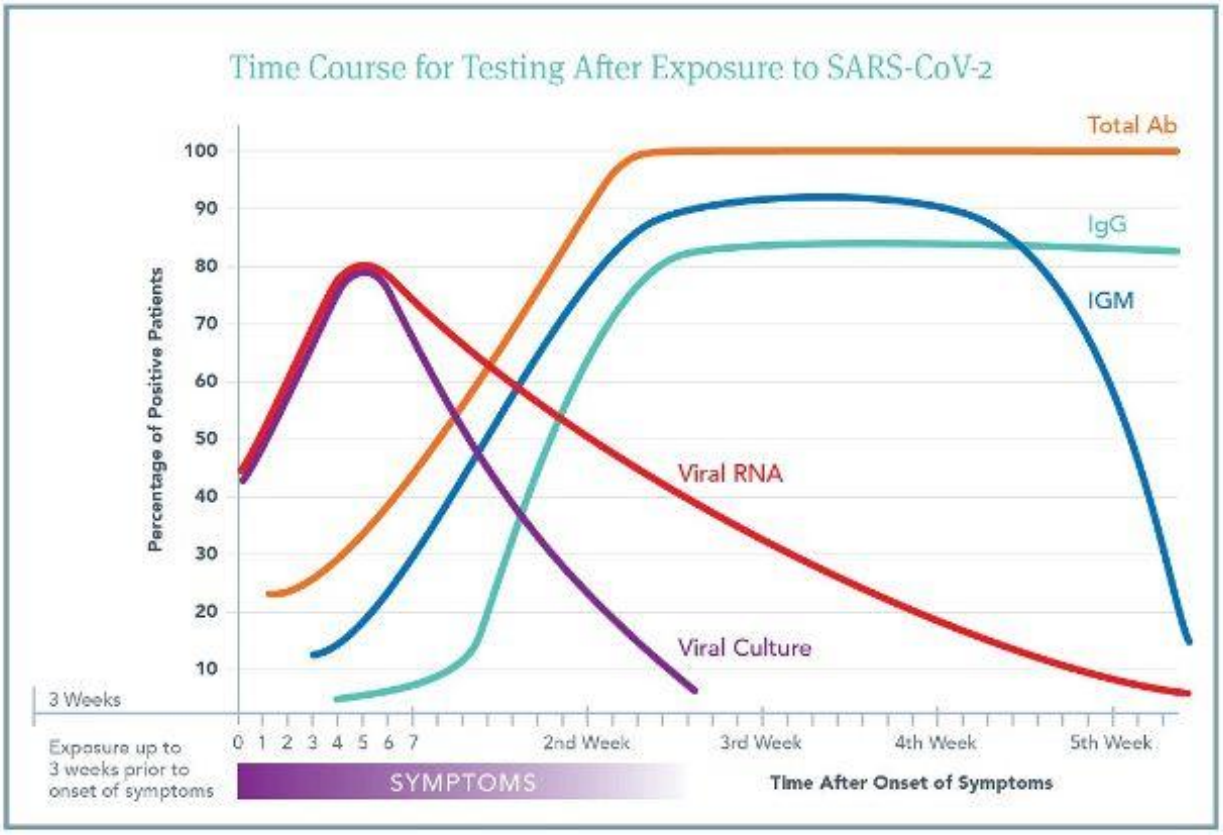
4 To determine the prevalence of natural history of this novel disease

Laboratory Testing for COVID-19 includes two categories one to detect the presence of the virus to to determine the host response to the virus I looking for antibodies specific to covid-19

COVID-19 occurs from direct contact with people infected or via Airborne droplets

the individual response after someone is exposed to the virus is variable and ranges from no symptoms of illness to severe systemic illness and death

Please remember that your risk of serious illness and death is extremely small. The majority of us who are exposed to the virus will have no symptoms or will seal for a few days and recover fully.



In this graph ,the x-axis represents the time form exposure to the virus to the onset of symptoms which ranges from 2 to 21 days. Remember that some people will never show symptoms.

The violet line with the sharp slope labeled viral culture and the red line label the viral RNA are tested with a nasopharyngeal swab. From the graph you can see that swab testing can a person with or without symptoms can detect a maximum of 80% a patient carrying the virus in their nose if the test is performed during the first week of symptoms.

Culturing the nose for covid-19 is in effective and is therefore no longer used. Viral RNA detection decreases sharply after Turner 12 days of symptoms what continues to be useful for detecting the people who may be carrying the virus with no symptoms.

the orange the blue and the teal lines are all antibody tests which are done by blood samples. These tests look at immunoglobulins which identify people who have had the virus and are developing immunity to the virus timing of antibody development(IgM IgA and IgG) varies with the individual the median antibody production is at 15 days after exposure which is possibly before the person develops symptoms.

Antibody test antibody tests have been put on the market without verification of their accuracy.

Epidemiologists determine accuracy using two measures: SENSITIVITY AND SPECIFICITY

ideally a test needs to have 95% or greater **sensitivity** so that people who are positive test positive the second measure is **specificity** which shows how well a test detects the proportion of truly negative tests put another way the percentage of truly uninfected individuals who test negative.

There will be an increasing number of antibody tests available online some of which will be done by finger stick and can be done in red at home. In order to determine the usefulness of this test before purchasing it please send the attached sheet to the company offering it asking for information about specificity and sensitivity of the test