

Jun 21, 2020

Three things to keep in mind when reading news articles about COVID-19 testing



Media reports related to COVID-19 testing often lack necessary distinction and perspective. Here are three things to be aware of when reading news articles that mention testing for SARS-CoV-2, the virus that causes COVID-19.

The first thing to consider is the **type of test** being presented. There are two main groups of tests that can detect infection with SARS-CoV-2, namely those that test for the presence of the virus itself vs. those that detect antibodies against the virus. Let's call this first group **'viral testing'**. Viral testing usually involves looking for the presence of genetic material from SARS-CoV-2, also known as ribonucleic acid (RNA), using a technique that involves a reaction with the acronym 'PCR'. A news article referring to such PCR testing may use alternative names to describe the same process: 'nucleic acid testing', 'molecular testing' and/or 'RNA testing'. Specimen collection for viral testing is straightforward, consisting of a swab that is used to collect secretions from the back of a person's nose. A positive nucleic acid test result tells us that the person is infected with the virus and likely to be infectious. When combined with effective tracing of contacts and (supported) isolation, viral testing can greatly slow the spread of SARS-CoV-2 within a community. [As an aside, there is another test in this group that can detect part of the virus itself called an 'antigen test', but this is much less commonly performed.]

Less useful at present, but likely to become more important in managing the COVID-19 pandemic, is **antibody testing** (also known as serological tests). Antibodies are proteins produced by a person's immune system several days/weeks after infection with a virus; antibody testing thus looks for COVID-19 indirectly and 'after the fact'. A truly positive COVID-19 antibody test result tells us that the person has been infected with SARS-CoV-2 at some point in the past – but tells us nothing about when that infection occurred or whether that person is currently infectious. Nor does it tell us if that person has immunity against reinfection with the novel coronavirus in the future. Although there is an increasing number of manufacturers making and selling COVID-19 antibody tests, including some designed for at-home self-testing by the general public, few of these antibody tests have lived up to expectations.

Which brings us to the second thing that you need to be aware of when reading news articles about COVID-19 testing: **no diagnostic test is perfect**. This is especially true for COVID-19 antibody tests. 'False-negative' and 'false positive' results can occur when the sensitivity or specificity, respectively, of that particular test, is <100%. A 'false negative' antibody test result occurs when the test result is negative, even though the person has been infected with the virus in the past; the false sense of security that comes with this scenario can be dangerous. Alternatively, a 'false positive' result can occur when the test accidentally detects antibodies of a virus similar to SARS-CoV-2. specimen (blood, in the case of antibody test) is taken too early.

From a clinician's perspective, the risk of 'false positives' is further amplified when the 'positive predictive value' (PPV) of a test result is considered, which is the probability that those testing positive truly have the disease in question. Explanation of the PPV is best left for another blog, but suffice to say that in situations where the prevalence of (past) infection with SARS-CoV-2 is <20%, as is likely to be the case in most of Canada (as of mid-2020), the specificity of any antibody test being used needs to be >99.5%. Unfortunately, the 'false positive' and 'false negative' rates of most antibody tests currently on the market have been too high to make them useful. As the saying goes, "it is better to have NO test, rather than an inaccurate one"!

A third point about testing for COVID-19 is that **a test result is not required prior to taking steps to reduce the burden of disease within a community**. Although it would be nice to be able to promptly offer a viral test to everyone having symptoms of COVID-19 disease, this is not possible in most settings. Instead, any person with a fever, new cough and/or other concerning symptoms should immediately self-isolate and communicate with their local health facility about next steps. In this way, the risk of transmission of the virus to others can be reduced. When in doubt, it is better to act in a safe and healthy manner in order to protect oneself, family, neighbours and the community.

Words by

Peter Saranchuk

Photo by

SeeChange Initiative

Share this article

Facebook

Twitter

Pinterest

E-mail

Share this article

Facebook

Twitter

Pinterest

E-mail

Back to News & Views

Continue reading

Related Posts



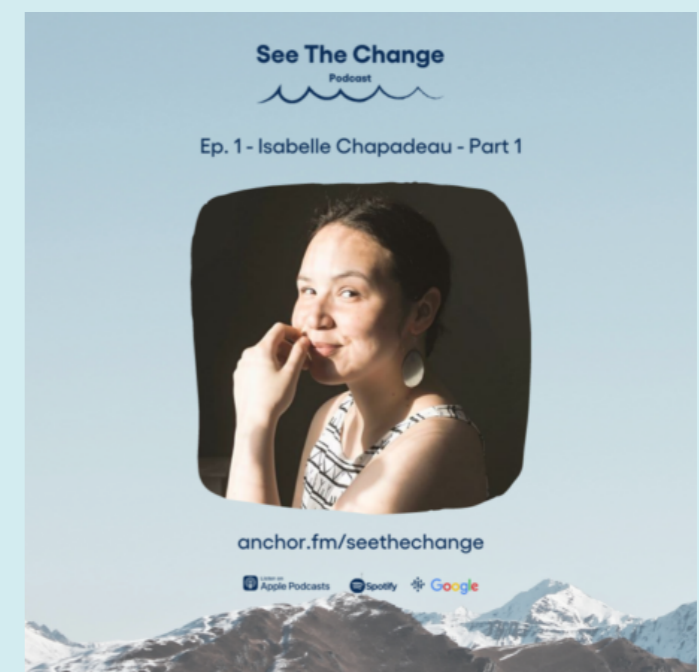
May 29, 2020
Fostering a sense of connectedness during COVID-19 self-isolation in Clyde River, Nunavut



Jun 21, 2020
Clyde River, October 2019: A Photo Story by Danny Solomon



Aug 18, 2020
Our Reports



Oct 28, 2020
See the Change Podcast Ep.1- Isabelle Chapadeau Part 1

Connect With Us
hello@seechangeinitiative.org

Support Us
Find out more about how you can support our work [here](#).

Join Our Newsletter
Email address **Submit**

Follow us Facebook Instagram Twitter LinkedIn

© Copyright 2021 SeeChange