Update for Week of May 18, 2020 to the Joint Statement on COVID-19
From Lung Cancer Advocacy Groups

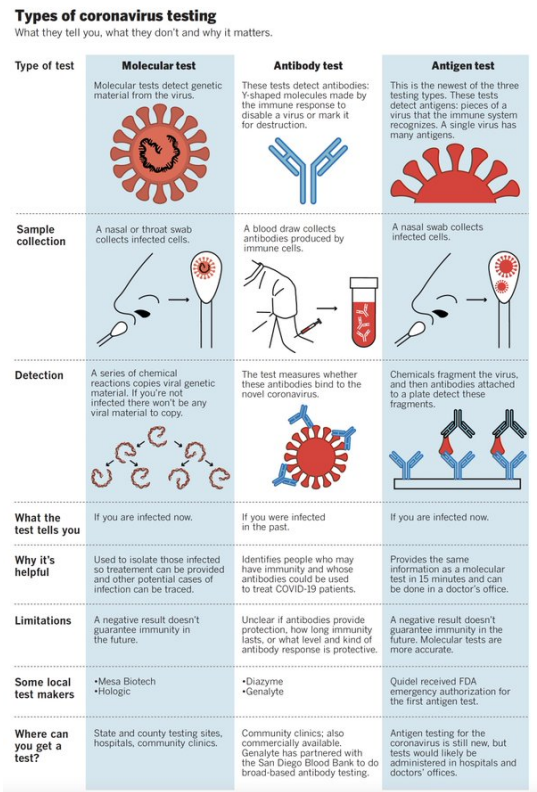
As different states are relaxing shelter-at-home orders and businesses are planning to re-open, it is important to understand the true extent of COVID-19 infections: both **active infections** (patients who are currently infected) and **past infections** (patients who were infected in the past and have now recovered).

Currently, **active infections** are tested using a nasal swab test. The FDA also recently approved a rapid antigen detection test to identify actively infected cases.

Commented [UKBR1]: https://www.fda.gov/news-events/press-announcements/coronavirus-covid-19-update-fda-authorizes-first-antigen-test-help-rapid-detection-virus-causes

Past infections are identified through serological (blood) tests that detect antibodies against the SARS-CoV-2 virus.

The following infographic shows the differences between the tests used for COVID-19.



Types of coronavirus testing

What they tell you, what they don't and why it matters.

Type of test	Molecular test	Antibody test	Antigen test
	Molecular tests detect genetic material from the virus.	These tests detect antibodies: Y-shaped molecules made by the immune response to disable a virus or mark it for destruction.	This is the newest of the three testing types. These tests detect antigens: pieces of a virus that the immune system recognizes. A single virus has many antigens.
Sample collection	A nasal or throat swab collects infected cells.	A blood draw collects antibodies produced by immune cells.	A nasal swab collects infected cells.
Detection	A series of chemical reactions copies viral genetic material. If you're not infected there won't be any viral material to copy.	The test measures whether these antibodies bind to the novel coronavirus.	Chemicals fragment the virus, and then antibodies attached to a plate detect these fragments.
What the test tells you	If you are infected now.	If you were infected in the past.	If you are infected now.
Why it's helpful	Used to isolate those infected so treatement can be provided and other potential cases of infection can be traced.	Identifies people who may have immunity and whose antibodies could be used to treat COVID-19 patients.	Provides the same information as a molecular test in 15 minutes and can be done in a doctor's office.
Limitations	A negative result doesn't guarantee immunity in the future.	Unclear if antibodies provide protection, how long immunity lasts, or what level and kind of antibody response is protective.	A negative result doesn't guarantee immunity in the future. Molecular tests are more accurate.
Some local test makers	•Mesa Biotech •Hologic	•Diazyme •Genalyte	Quidel received FDA emergency authorization for the first antigen test.
Where can you get a test?	State and county testing sites, hospitals, community clinics.	Community clinics; also commercially available. Genalyte has partnered with the San Diego Blood Bank to do broad-based antibody testing.	Antigen testing for the coronavirus is still new, but tests would likely be administered in hospitals and doctors' offices.

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Infographic courtesy: Dr. Jonathan Wosen and Michelle Gilchrist from the San Diego Tribune

However, interpreting the results of the test may be tricky. Also, the results depend on various factors:

1. **Patient-specific factors**: Did the patient mount a robust immune response? How long do detectable antibodies last?
2. **Test being used**: Different antibody tests may have different sensitivity and specificity. We are still learning what this means for different tests and how to interpret the results.
3. **What an test is measuring**: Some tests measure only one type of antibody (IgG) while others measure IgM and IgG. Does this mean one test is better than the other? We still do not know.
4. **What the test results mean**: Does a positive test result mean that a person is immune to re-infection by SARS-CoV-2? If so, for how long?

For example, Amy (in the SF Bay Area) got sick on January 23, 2020 and her antibody test from May 15, 2020 was negative. Upal (in New York City) got sick on March 14, 2020 and his antibody test from May 4, 2020 was positive. Could this be because Amy didn't produce enough antibodies? Because the antibodies decrease with time? Because the test was not done correctly? Or could it reflect differing test sensitivity?

To answer these types of questions will take time. In case you want to learn more about the issues with interpreting test results, please read the article here.

In this week's update, we present a short video (and transcript of the discussion) with Dr. Nicolas Vabret, Assistant Professor of Medicine, Hematology and Medical Oncology at Icahn School of Medicine at Mount Sinai. Dr. Vabret, a virologist/immunologist, answers important questions, such as:

1. What type of an immune response does the body mount against SARS-CoV-2, the virus that causes COVID-19?
2. How can we detect if a person is infected with SARS-CoV-2 now?
3. How can we detect if a person was infected with SARS-CoV-2 in the past but has now recovered?

Resources and websites:

1. IASLC's Guide to COVID-19 and Lung Cancer
2. The National Cancer Institute has a special website for COVID-19 and emergency preparedness. COVID-19: What People with Cancer Should Know-
3. We are following updates provided by the World Health Organization (WHO) and the US Centers for Disease Control and Prevention (CDC)
4. Johns Hopkins COVID-19 Resource Center
5. Interactive map of US COVID-19 cases by state
6. The One-Two Punch: Cancer And COVID-19 (an important perspective for cancer patients)

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Commented [UKBR2]: https://www.cancer.gov/publications/dictionaries/cancer-terms/def/sensitivity

Commented [UKBR3]: https://www.cancer.gov/publications/dictionaries/cancer-terms/def/specificity

Commented [UKBR4]: https://www.cnn.com/2020/05/12/health/covid-19-antibody-test-explained-wellness/index.html

Commented [UKBR5]: Link PDF version of the transcript – attached separately

Commented [ÁC6R5]: https://www.lungcancerresearchfoundation.org/wp-content/uploads/VabretQA051420V2_May_18_2020_update.pdf

7. You can find information specific to your state or city or town on your health department's website.
   - Directory of state department of health websites
   - Directory of local health department websites
8. American Medical Association resources for healthcare providers.

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