Antibody Testing

By Katherine Hoyer, Panhandle Health District and Andrea Nagel, Kootenai Health

Reports in national media lately have been all about antibody testing (also known as serologic testing) and the excitement of being one step closer to understanding the total impact of COVID-19. This news is hopeful and encouraging, but where are we at in our area?

A common anecdote we hear is, “I think I had COVID-19 a few months ago. I was never tested, but could I have immunity proven through the antibody test?”

There is important value in understanding individual immunity as well as potential herd immunity among our community. With the science on COVID-19 still evolving, there is a lot we need to learn about antibody tests and how well they can help us answer our questions.

“Serologic testing has the potential to provide a powerful tool in the management of the COVID-19 pandemic,” Michael Harvey, M.D., medical director of Laboratory Services at Kootenai Health, said. “This testing methodology will play a vital role in assessing how prevalent the disease actually is.”

Here is some information from the FDA on serological testing.

How the Test Works

Unlike a test designed to diagnose an active COVID-19 infection (specifically from the SARS-CoV-2 virus), serological tests can help identify individuals who have developed an immune response to the virus, either as part of an active infection or a prior infection. The test detects the presence of antibodies in the blood — if antibodies are present, that indicates that the person has been exposed to the virus and developed antibodies against it, which may mean that person has at least some immunity to the virus. In the early days of an infection when the body’s immune response is still building, antibodies may not be detected, which is why serological tests should not be used as the sole basis to diagnose or exclude infection with the SARS-CoV-2 virus.
There is still a great deal about COVID-19 immunity that we don’t yet fully understand. For example, we don’t yet know that just because someone has developed antibodies, that they are fully protected from reinfection, or how long any immunity lasts. We do expect that data from more widespread serological testing will help us track the spread of the virus nationwide and assess the impact of our public health efforts now, while also informing our COVID-19 response as we continue to move forward. Determining the next steps in our response to COVID-19 is partially dependent on an accurate assessment of our national efforts thus far, and the quality of data for making this decision is dependent on accurate testing products.

**How reliable are the tests?**

Most antibody tests have not been sufficiently evaluated to know how reliable they are. The Infectious Disease Society of America advises that antibody test results should not be used to make staffing decisions or decisions regarding the need for personal protective equipment.

Because of the COVID-19 emergency, the FDA has allowed serology tests to be marketed based on the manufacturer’s evaluation only and without the usual FDA evaluation – few serology tests have been evaluated by the FDA at this time.

“Within the past several weeks, multiple companies have introduced rapid point-of-care testing kits for the detection of antibodies against COVID-19,” Dr. Harvey said. “We’ve see fundamental reliability issues with many of these tests. Because this is a new virus, there is no gold standard to serve as a comparison to these new tests. One common issue is cross-reactivity with non-COVID-19 coronaviruses, such as the virus that causes the common cold or the one that causes SARS. This means a positive antibody test could be detecting antibodies from the wrong coronavirus, a false positive.”

FDA is currently working with the National Institutes of Health (NIH) and the Centers for Disease Control and Prevention (CDC) to evaluate serological tests. Dr. Harvey and other medical leaders in our community are monitoring developments and will continue to provide guidance on the issue. He said as soon as a reliable test is available, he and his team will organize a plan to implement serologic testing in our community.

**What else can you do to help?**

According to the FDA, if you have fully recovered from COVID-19, you may be able to help patients currently fighting the infection by donating your plasma. Because you fought the infection, your plasma now contains COVID-19 antibodies. These antibodies provided one way for your immune system to fight the virus when you were sick, so your plasma may be able to be used to help others fight off the disease.

Several resources are available regarding options to donate convalescent plasma. To learn more and find the site nearest you visit:

- AABB
- America’s Blood Centers
- American Red Cross
- Blood Centers of America
Panhandle Health District provides over 40 different public health programs to families, individuals and organizations in northern Idaho. From food and drinking water safety to health education and disease control, public health services are critical to ensure our community is a safe and healthy place to live, work and play.

The PHD team is made up of nurses, nutritionists, environmental health specialists, health educators and many other dedicated professionals with a common goal to deliver vital public health services.

Panhandle Health District is one of seven health districts in the state of Idaho.

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