Types of COVID-19 Tests

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Consensus of the Physician Advisory Group to Josephine County Public Health Department

COVID-19 Nasal Swab Test (PCR)

What is the purpose of this test?

This test is used to find out if you have the COVID-19 illness now. The test only indicates if the person has the virus right now. It looks for the COVID-19 virus in your nasal fluid. The fluid must be collected using a nasal swab. This test only looks for the COVID-19 virus.

When is this test used?

The COVID-19 Nasal Swab Test can show a positive very early in the illness. If you have already contracted the infection, it may be positive even if you are still feeling well. This is called being “asymptomatic”.

Being sick, but not showing symptoms is a concern. This is called being a “silent carrier”. It means that if you have the virus and don’t feel sick, but you can still give the infection to another person. The Nasal Swab Test can identify if you are a “silent carrier”.

Who can get tested?

Right now, people who are very sick with COVID-19 symptoms get the highest priority for using the PCR Test. People who are mildly ill and live in a nursing home or other group living places, or are healthcare workers and first responders are also being tested.

As testing becomes more available, people who have mild symptoms will be tested. People who have been close to someone else who has COVID-19 will also be tested.

Do I have to get more than one test?

Once you get COVID-19, you are likely infectious to others, if you are tested and the PCR Test still shows positive. For most cases, the Centers for Disease Prevention and Control (CDC) does not recommend getting more than one test to prove you have recovered.

How do I know if I have recovered?

You are considered to be “recovered” when you have been isolated for at least 10 days from the beginning of illness symptoms and at least 72 hours after you no longer have a fever and your other symptoms have improved (whichever is longer). Your fever must not be gone because of using a fever reducing medication, such as Acetaminophen.

How accurate is the PCR Test?

The true accuracy of the test is still largely unknown.

The sensitivity of the test (the ability to detect the virus in someone who has the illness) depends on many factors:

- The quality of the manufacturer’s test and the level of virus that must be present for the test to work.
- How the nasal fluid is collected and transported.
- At what point during your illness you are being tested.

False negatives (someone who actually has the illness, but their test is negative) do happen. False negatives happen on about 10-30% of the tests that are performed. Right now there is no clear agreement on the sensitivity of the different brands of PCR tests now being used.

Why get the PCR Test?

Because the PCR Test only looks for COVID-19, it means that if your test is positive, then you are most likely having an acute COVID-19 illness at that time. This is true even if you feel well when the test is taken. But a positive test ONLY means you have COVID-19 at the time the test is done. You could test negative today and test positive with infection the next day. The test can not tell you how long you have been contagious to others. It will also not help predict how long you will be sick or how sick you will become.

COVID-19 Antibody Test (immunologic or serology tests)

What is the purpose of this test?

The COVID-19 Antibody Test shows if you already had COVID-19. The test works by measuring antibodies in a sample of your blood. The sample is taken by using a finger prick or by doing a blood draw.

If I tested positive for the COVID-19 antibody, am I protected?

Just because you have the antibody to COVID-19 does not mean that you are permanently immune. It also doesn’t mean that you are protected from getting the disease again. If this virus can mutate or change over time, like the annual influenza virus can, then it is not clear whether antibodies to fight this COVID-19 infection will even protect a person in the future against a new strain of COVID. Right now, more studies need to be done to find out if you can get COVID-19 again after already having the antibody.

What is an antibody and why does it matter?

Antibodies are made by your body when you are fighting an infection. It is your body’s defense to the virus. But the amount or concentration of a specific type of antibody can matter greatly. That is because not all antibodies can truly kill or neutralize a virus. Some antibodies (IgM types) are produced early in infection. Those early antibodies do not last long, only a couple weeks after you have been sick. They offer very little or no immune protection.

The longer lasting (IgG type) antibodies are measurable at 10-14 days, peak around 28 days. They may offer some degree of immune protection. It is not known what the minimum quantity of the IgG antibody level must be to protect against new infection. It is not known how long they will persist, or even if they are protective initially.

Are the COVID-19 antibody tests accurate?

No test is perfect. In fact, every type of test has an amount of samples that will test “false positive”. This means that the test may be wrong and show a positive result even if you don’t have antibodies. For the COVID-19 antibody test, this can lead you to believe you’re protected from a future infection even when you are not.

The accuracy of this test is still not reliable. Right now, there are more than 100 different brands of antibody tests available. Only a few of those tests have been reviewed by the FDA. Many of the tests have not been reviewed enough and some are fake.

Over time, the makers of these tests will get better at making them. Once that happens, these tests will be important for finding out how many people have been infected. Someday, they may also give helpful information on immunity status. **But right now, the are not accurate enough to be helpful and should not be used to determine whether you are safe to relax physical distancing, stop the use of face masks, or minimize hand washing.**

Most in the scientific community feel that it will take a period of time (months at least) before we more fully understand how the virus is transmitted, why some people have mild symptoms and others have a deadly outcome, and if infection leads to protection against reinfection. Accurate antibody tests will be of crucial value in answering these questions. We should not expect them to tell us when “the coast is clear” at this current time until further studies are completed.