Information about the Covid-19 Corona virus test

<https://www.npr.org/sections/health-shots/2020/03/02/811314938/coronavirus-testing-what-to-know-as-it-becomes-available-across-the-u-s?t=1583350131499>

If a patient is suspected of having COVID-19, the person will most likely be tested at a hospital.

A medical professional will swab inside a patient's nostril and throat. If the patient has a wet cough, the health care worker will also collect sputum (the mixture of saliva and mucus that is coughed up). These samples will then be examined in a lab for genetic material that indicates whether the coronavirus is present.

Will the test tell me if I had coronavirus but got better?

No. The test will show only whether you are currently infected with the virus. It will not show whether you had the virus in the past.

<https://medlineplus.gov/lab-tests/coronavirus-testing/>

What is coronavirus testing?

Coronavirus testing looks for signs of a coronavirus infection in nasal secretions, blood, or other body fluids. Coronaviruses are types of viruses that infect the respiratory system. They are found in both animals and people. Coronavirus infections in people are common throughout the world. They don't usually cause serious illness.

Sometimes a coronavirus that infects animals will change and turn into a new coronavirus that can infect people. These coronaviruses can be more serious and sometimes lead to pneumonia. Pneumonia is a life-threatening condition in which fluid builds up in the lungs.

Three of these new coronaviruses have been discovered in recent years:

* SARS (severe acute respiratory syndrome), a serious and sometimes fatal respiratory illness. It was first discovered in China in 2002 and spread around the world. An international effort helped quickly contain the spread of disease. There have been no new cases reported anywhere in world since 2004.
* **MERS** (Middle East respiratory syndrome), a severe respiratory illness discovered in Saudi Arabia in 2012. The illness has spread to 27 countries. Only two cases have been reported in the United States. All cases have been linked to travel or residence in or around the Arabian Peninsula.
* **COVID-19** (coronavirus disease 2019). It was discovered in late 2019 in Wuhan City, in the Hubei Province of China. Most infections have occurred in China or are related to travel from Hubei Province. There have been some cases reported in United States. The outbreak is being closely monitored by the Centers for Disease Control (CDC) and the World Health Organization (WHO).

**How is it used?**

Coronavirus testing is used to help diagnose infections and help prevent the spread of disease.

**Why do I need a coronavirus test?**

You may need testing if you have symptoms of infection and have recently traveled to parts of the world where infection rates are high. You may also need testing if you have had close contact with someone who has traveled to one of those areas.

**Symptoms of coronavirus infections include:**

Fever

Cough

Shortness of breath

Sore throat

Headache

Symptoms of COVID-19 are usually milder than those of SARS and MERS.

**The symptoms of COVID-19 include:**

Fever

Cough

Shortness of breath

If you have symptoms and have not traveled to areas where infection rates have been high or been exposed to someone who has, it's highly unlikely that you have one of these new coronaviruses. You may have another type of virus, such as the flu. The flu is much more common in the United States than the new coronaviruses.

**What happens during coronavirus testing?**

If your provider thinks you may have COVID-19, he or she will contact the CDC or your local health department for instructions on testing. You may be told to go to a special lab for your test.

Only certain labs have been allowed to do tests for COVID-19.

There are a few ways that a lab may get a sample for testing.

* **Swab test**. A health care provider will use a special swab to take a sample from your nose or throat.
* **Nasal aspirate**. A health care provider will inject a saline solution into your nose, then remove the sample with gentle suction.
* **Tracheal aspirate**. A health care provider will put a thin, lighted tube called a bronchoscope down your mouth and into your lungs, where a sample will be collected.
* **Sputum test**. Sputum is a thick mucus that is coughed up from the lungs. You may be asked to cough up sputum into a special cup, or a special swab may be used to take a sample from your nose.
* **Blood.** A health care professional will take a blood sample from a vein in your arm.

The FDA has approved more widespread use of a rapid test for COVID-19. The test, which was developed by the CDC, uses samples from the nose, throat, or lungs. It enables fast, accurate diagnosis of the virus. The test is now allowed to be used at any CDC-approved lab across the country.

**Will I need to do anything to prepare for this test?**

Your health care provider may ask you to wear a facemask to your appointment. Your provider will let you know if you should take other steps to prevent the spread of infection.

**Are there any risks to the test?**

You may feel a tickle or a gagging sensation when your nose or throat is swabbed. The nasal aspirate may feel uncomfortable. These effects are temporary.

There is a minor risk of bleeding or infection from a tracheal aspiration.

There is very little risk to having a blood test. You may have slight pain or bruising at the spot where the needle was put in, but most symptoms go away quickly.

**What do the results mean?**

If your results were positive, it means you **probably** have a coronavirus infection. There is no specific treatment for these infections, but your health care provider may recommend steps to relieve your symptoms. These include:

Drinking plenty of fluids

Resting

Taking over-the-counter pain relievers

You may need to go to the hospital if your symptoms get worse, which may be a sign of pneumonia. Symptoms of pneumonia include a worsening cough, increased trouble breathing, and a high fever.

If you were diagnosed with a coronavirus infection, you should also take the following steps to prevent others from getting sick:

Stay home, except to get medical care.

Wear a facemask when you are around other people.

Do not share drinking glasses, eating utensils, towels, bedding, or other items with people in your home.

Cough or sneeze into your sleeve or a tissue, not your hands.

Wash your hands frequently and thoroughly with soap and water for at least 20 seconds. If soap and water are not available, use an alcohol-based hand sanitizer that contains at least 60% alcohol.

If your results were negative, you may need further testing and/or an exam by your provider. Until you get a diagnosis, you will still need to take steps to prevent spreading the infection.

**Is there anything else I need to know about coronavirus testing?**

You can lower your risk of getting an infection by taking the following steps:

Wash your hands frequently and thoroughly with soap and water for at least 20 seconds. If soap and water are not available, use an alcohol-based hand sanitizer that contains at least 60% alcohol.

Avoid touching your eyes, nose, and mouth.

When possible, keep away from people who are coughing and sneezing.

Clean frequently-touched objects and surfaces with a household disinfectant spray or wipe.

<https://www.uofmhealth.org/health-library/hw235580>

Several types of tests may be used to check for viruses:

* **Antibody test**. Antibodies are substances made by the body's immune system to fight a specific viral infection. The antibodies attach to a cell infected by the virus and cause the virus to be destroyed. This test looks for antibodies to a specific viral infection. It is generally done on a blood sample. If the antibody is found, this test can show whether a person was infected recently or in the past.
* **Viral antigen detection test**. Viral antigens develop on the surface of cells infected with a specific virus. A viral antigen detection test is done on a sample of tissue that might be infected. Specially tagged (with dye or a tracer) antibodies that attach to those viral antigens are mixed with the sample. The tagged antibodies can be seen by using a special light (or other method). If the tagged antibodies are attached to the cells, the cells are infected with the virus.
* **Viral culture**. This is a test to find a virus that can cause an infection. A sample of body fluid or tissue is added to certain cells used to grow a virus. If no virus infects the cells, the culture is negative. If a virus that can cause infection infects the cells, the culture is positive. A viral culture may take several weeks to show results.
* **Viral DNA or RNA detection test**. Using a sample of tissue or blood or other fluid (such as spinal fluid), this type of test looks for the genetic material (DNA or RNA) of a specific virus. This test can show the exact virus causing an infection.

Different types of samples are used for a viral test, including blood, urine, stool (feces), organ tissue, spinal fluid, and saliva. The type of sample used for the test depends on the type of infection that may be present.

<https://www.cdc.gov/coronavirus/2019-ncov/lab/tool-virus-requests.html>

**How can my lab get the virus?**

The National Institute of Health (NIH)’s Biodefense and Emerging Infections Research Resources Repositoryexternal icon (BEI Resources) will provide laboratories with COVID-19.

<https://tools.cdc.gov/medialibrary/index.aspx#/microsite/id/403323>