



## COVID-19 Testing FAQs

### What is a PCR test, and how is it used?

A PCR or “polymerase chain reaction” test for COVID-19 is a type of medical test that looks for genetic material from SARS-CoV-2, the virus that causes COVID-19. Sometimes, it is referred to as an RT-PCR test (reverse transcription PCR). PCR and other tests that detect viral genetic material are together referred to as nucleic-acid amplification tests (NAATs), or sometimes just called molecular tests.

With a laboratory-based NAAT, such as PCR, a sample is sent to a lab, and it may take anywhere from 24-72 hours to get the result. There are also point-of-care NAATs (e.g. CUE, Accula, “rapid PCRs”, Abbott IDNow), where the sample is processed at a doctor’s office or a testing site, and results are returned quickly. In general, laboratory-based NAATs are more accurate than both point-of-care NAATs and antigen tests.

### What is an antigen (Ag) test, and how is it used?

An antigen test looks for proteins from SARS-CoV-2, the virus that causes COVID-19. Results are usually available in 15 minutes. Antigen tests are less sensitive than PCR tests, which means they may not identify every person who is infected. Because of this, antigen tests are often used twice weekly when testing people without symptoms (e.g., screening/surveillance testing or modified quarantine). Depending on the situation, an antigen test *may* need to be confirmed by a lab-based NAAT (e.g. PCR):

- In people **with symptoms**, a positive antigen test does not need to be confirmed, but a negative result should be confirmed by PCR.
- In people **without symptoms who have been exposed** to someone with COVID-19, neither positive nor negative tests need to be confirmed.
- In people **without symptoms who have NOT been exposed** to someone with COVID-19, a positive test should be confirmed by PCR.

### What is an antibody test, and how is it used?

Antibodies are produced by your immune system when you have an infection, such as a cold or COVID-19. Antibodies can help your body fight off future infections more easily. A SARS-CoV-2 antibody test looks for evidence of a *previous* COVID-19 infection. **It is not the correct test to diagnose a *current* infection.** A person with a current COVID-19 infection can have a negative antibody test, because their body hasn’t had time to produce antibodies yet.



## When should someone be re-tested?

Re-testing is only recommended in specific situations when confirmation of infection is required.<sup>1</sup> The following scenarios help demonstrate how re-testing should be used:

Scenario 1: Positive PCR test in a person *with or without* symptoms: Do NOT re-test. **The initial positive result will be used to guide isolation and quarantine decisions.**

Scenario 2: Negative PCR test in a person *with* symptoms: Do NOT re-test. This result indicates that the symptoms are most likely due to another illness besides COVID-19.

Scenario 3: Positive antigen test in a person *without* symptoms: If the person *does not* have a known exposure, confirm this result with a lab-based NAAT (e.g. PCR). If the person *does* have a known exposure (i.e. they are in quarantine), a positive antigen test indicates COVID-19 infection and re-testing is not necessary.

Scenario 4: Negative antigen test in a person *with* symptoms: Re-test using a lab-based NAAT (e.g. PCR).

Scenario 5: Positive antigen test in a person *with* symptoms: Re-testing is not necessary. If a person does get re-tested by PCR within 48 hours and the result comes back negative, symptoms are most likely due to another illness besides COVID-19.

***Re-testing with PCR or another NAAT after a positive PCR to confirm infection or to see if someone has cleared infection is NOT recommended, as this may give confusing or misleading results.***

## Why do test results sometimes disagree?

There are several reasons why someone can be tested more than once and get different results. For example, when a person has been infected with SARS-CoV-2, the amount of virus in their nose and throat can go up and down over time. Because of this, a test collected on two different days during COVID-19 infection may show different results. If specimens are collected using different techniques or if different labs are used, this can also cause inconsistent test results, even when infection is present. **False positive lab-based NAAT (e.g. PCR) results are unlikely.** So, if someone has a positive lab-based PCR test followed by a negative one, the initial positive result will be used to guide isolation and quarantine decisions.

PCR and other NAATs, especially lab-based tests, are more sensitive than antigen tests, meaning they are more likely to detect infections that an antigen test may miss, especially in people without symptoms. **When there is a mix of positive and negative antigen and PCR results, a positive PCR result will be used to guide isolation and quarantine decisions.**

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<sup>1</sup> Some point-of-care NAATs (but not those that use saliva) can be used as confirmatory tests in certain situations. For example, the CUE test can confirm a negative antigen in a symptomatic person. **However, laboratory-based NAATs (e.g. PCR) are preferred for confirmatory testing.**



### **What type of test does a student with symptoms need before returning to school?**

Schools can accept most negative point-of-care NAATs from a student with symptoms, although a laboratory-based NAAT (e.g. PCR) is preferred.<sup>2</sup> Lab-based NAATs are more accurate than most point-of-care NAATs. In addition to a negative test, students must be fever-free for at least 24 hours without the aid of fever-reducing medicines, such as Motrin, to return to school. It is also important that symptoms have started to improve before returning. It is difficult to mask correctly with a cough, and masks are less effective when wet, such as when a student has a runny nose.

### **Don't some people have positive PCR tests even after they have recovered from COVID-19?**

COVID-19 PCR tests and other NAATs can detect very small amounts of leftover virus. This means that these tests may be positive after someone has recovered from illness and is no longer infectious. When there are no symptoms of COVID-19 illness and no history of exposure, it can be difficult to determine exactly when someone became infected and when they have recovered. When there is a positive PCR test in someone without recent COVID-19 symptoms (or a previous positive test), it is considered a new infection and the person should isolate for 10 days.

### **What if I was sick weeks or months ago and never got tested?**

COVID-19 symptoms, especially when mild, are similar to the symptoms of many other common illnesses including colds, the flu and even seasonal allergies. It can be difficult to determine whether past symptoms were due to COVID-19. For this reason, when there is a new positive test, only current symptoms are considered when making decisions about isolation and quarantine.

### **My doctor looked at my test results and said I don't have COVID-19.**

Individual health care providers may occasionally interpret COVID-19 test results for a single individual differently from the standards established by local, state and national public health authorities. However, COVID-19 public health decisions based on these standards reflect the need to protect many people in our communities from the spread of the virus and are based on the best available evidence collected throughout the pandemic. Decisions about isolation and quarantine are guided by the test results.

### **Does "Day 5 or after" refer to the day the test was taken OR the day the result was received?**

It refers to the day the sample was collected/test was taken.

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<sup>2</sup> According to [CDPH guidance](#), "For persons in quarantine who experience symptoms, a negative result from an antigen test or [point-of-care] molecular test results should be confirmed with a laboratory-based PCR test." In addition, the Emergency Use Authorization (EUA) for the Abbott IDNow explicitly states that a negative result in a person with symptoms needs confirmation by another molecular test. It is important to always follow the language in the EUA for any test.