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## WHAT ARE PCR TESTS?

A PCR (polymerase chain reaction) test detects genetic material from an organism (i.e. bacteria or a virus) by copying a small portion of the genetic material in a process called amplification.

Amplification allows for easier detection and identification of pathogens (disease-causing organisms) — sometimes even prior to symptoms surfacing — thus helping halt further disease spread. Tests that do not use amplification, such as antigen tests, might not achieve early detection because there are not enough viruses, bacteria, or other pathogens present in a patient's sample.

## HOW ARE PCR TESTS BEING USED?<sup>1</sup>

- Diagnosing infectious diseases
- Identifying genetic changes that can cause disease
- Detecting small amounts of cancer cells that other types of testing might miss



Cepheid, with its GeneXpert® systems and diverse menu of PCR tests, is proud to partner with the care providers at this facility to offer **PCRplus** here.

To learn more, visit:  
[www.cepheid.com/knowingmore](http://www.cepheid.com/knowingmore)

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KNOWING **MORE** MATTERS

## An Educational Guide

to Polymerase Chain Reaction (PCR) Testing

<sup>1</sup> Medline Plus: PCR Tests. Accessed 10/1/2022.  
<https://medlineplus.gov/lab-tests/pcr-tests/>

<sup>2</sup> Cleveland Clinic: COVID-19 and PCR Testing. Accessed 10/1/2022. <https://my.clevelandclinic.org/health/diagnostics/21462-covid19-and-pcr-testing>



## KNOWING **MORE** MATTERS

*So you can get back to what matters most*



### HOW DOES PCR TESTING WORK?<sup>2</sup>



#### STEP 1

**A patient gives a sample.**

A healthcare provider takes a sample of blood, saliva, mucus, or tissue, containing DNA (genetic material).



#### STEP 2

**The sample is placed into a machine where PCR amplification occurs.**

A chemical reaction causes the sample to make billions of copies of the genetic sequence.



#### STEP 3

**The test is complete.**

The machine determines if pathogens are present in the amplified sample.

A healthcare professional will then examine the results to develop a treatment plan.

### WHAT IS THE DIFFERENCE BETWEEN PCR AND ANTIGEN TESTING?

Throughout the COVID-19 pandemic, both PCR and rapid antigen testing emerged as integral to slowing the spread of the virus however, PCR has been recognized as the gold standard for respiratory virus testing.



More sensitive than antigen tests, **PCR tests** amplify genetic material from the virus, thereby detecting very small amounts of virus within the sample.



Without amplification, **antigen tests** directly detect viral proteins from a sample, which may result in false negatives if only a low-moderate virus amount is present.



### WHAT IS **PCR<sub>plus</sub>**?

**PCR<sub>plus</sub>** is an elevated category of PCR testing because it combines the following five advantages:



#### ACCURACY

Results you can rely on.



#### SPEED

Don't wait days.  
Same-day results.



#### FLEXIBILITY

Results anytime,  
anywhere.



#### QUALITY

A track record of  
results you can trust.



#### SIMPLICITY

Easy steps from test  
to results.