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Home monitoring and self-testing for COVID-19

What is home monitoring and what does it look like for COVID-19?

Home monitoring (or remote monitoring) is one way for people to keep track of their health. Normally, people need to visit their healthcare provider in person to make sure they are not sick or are getting better if they have a health condition. When someone is home monitoring, they can watch their health at home without having to see their provider in person. Patients can do this by recording their progress on a home computer or cellphone and can send this information to healthcare providers electronically.

> Health care providers include:
>
> - Medical doctors (MDs) and doctors of osteopathic medicine (DOs)
> - Dentists
> - Nurses and nurse practitioners
> - Physician assistants (PAs)
> - Pharmacists

Because patients do not need to meet their health care providers in person, home monitoring can be more convenient while helping to stop the spread of a disease. This is especially important to help more people from developing COVID-19.

COVID-19 Symptoms[1]	Body measurements
- Fever or chills - Cough - Difficulty breathing - Headache - Nausea/vomiting - Sore throat - Muscle/body aches	- Body temperature - Oxygen saturation

When home monitoring for COVID-19, you will need to be aware of your symptoms and body's measurements. Your temperature can be taken with the use of a thermometer. If your temperature is at or above 100.4° F (38° C), then you are considered to have a fever[2].

Your oxygen saturation (how much oxygen is in your blood) can be measured with a pulse oximeter. A normal oxygen saturation is above 95%. If your oxygen saturation is below 95%, it is a sign that you are having difficulty breathing.

What is self-testing?

When a person needs to know if they are sick, a health care provider such as a doctor will first collect a sample from that person. The doctor may collect the person's blood, sweat, mucus, or saliva for the sample. However, during self-testing, the person can collect their own sample without the help of a doctor. When the sample is

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[1] https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html

[2] https://www.cdc.gov/quarantine/air/reporting-deaths-illness/definitions-symptoms-reportable-illnesses.html

collected, it is then sent by the person to a laboratory. The laboratory will then look for either a sign of the person's immune response or for the germ itself. Based on what they find, the laboratory can tell the person whether they are currently sick or were once sick from a specific disease.

A good test is made up of two parts:

o   Sensitivity: how well the test can tell when someone has the disease. Very sensitive screens will always be able to tell when someone is sick, but false positives are more likely.

o   Specificity: how well the test can tell when someone does *not* have the disease. Very specific screens will always be able to tell when someone is not sick, but false negatives are more likely.

COVID-19 self-testing kits

Because of how quickly SARS-Cov-2 is spreading, the U.S. Secretary of the Department of Health and Human Services has issued emergency use authorizations (EUAs).[3] These EUAs allow people to detect the virus or diagnose people with COVID-19, but this does not mean the tests or procedures are approved.[4]

Below are self-testing kits available because of EUAs:

- Pixel by LabCorp COVID-19 Test (Laboratory Corporation of America[5])
- Everlywell COVID-19 Test Home Collection Kit (Everlywell[6])
- Vault (Rutgers Clinical Genomics Laboratory TaqPath SARS-Cov-2 Assay[7])
- Hims & Hers (Rutgers Clinical Genomics Laboratory TaqPath SARS-Cov-2 Assay[8])
- Vitagene (Rutgers Clinical Genomics Laboratory TaqPath SARS-Cov-2 Assay[9])

> ### What's the difference between SARS-Cov-2 and COVID-19?
>
> SARS-Cov-2 is the name of the virus while coronavirus disease 2019 (COVID-19) is the name of the illness that is caused by the virus.
>
> The names are similar to how HIV is the virus and AIDS is the name of the illness as a result of HIV.

These tests will tell you if you currently have COVID-19 and can range from $109 to $150. Some companies can file with your insurance or use federal funds to pay for the test. Before companies send you a test, they will generally ask what your COVID-19 symptoms are and if you have been exposed to someone with COVID-19.

If you use a COVID-19 home-testing kit, you will need to self-quarantine for 48-72 hours until your test results are available.[10]

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[3] https://www.fda.gov/medical-devices/emergency-situations-medical-devices/emergency-use-authorizations

[4] https://www.fda.gov/emergency-preparedness-and-response/mcm-legal-regulatory-and-policy-framework/emergency-use-authorization

[5] https://www.fda.gov/media/136148/download

[6] https://www.fda.gov/media/138144/download

[7] https://www.fda.gov/media/137773/download

[8] https://www.fda.gov/media/137773/download

[9] https://www.fda.gov/media/137773/download

[10] https://hbr.org/2020/03/how-to-make-at-home-coronavirus-testing-work

Pros and cons of self-testing[11]

Pros	Cons
✓ Self-testing is a form of screening. Screening is meant to detect early stages of the disease so that treatment can start soon.	✗ If the self-tests are performed incorrectly, the validity (i.e., accuracy) of the test may be affected. This may make false negatives and false reassurance more likely.
✓ Self-testing does not need a healthcare provider to do the test, so tests can be done at the individual's home. Being able to test at home can help save on time and money.	✗ Contrary to the name, self-testing kits are not diagnostic tests. Results of a self-testing kit (especially when positive) must be followed up with a diagnostic test to confirm someone has the disease.
✓ Testing at home can help limit person-to-person contact.	✗ Not all results mean the same thing between different tests. Tests may tell you whether you currently are sick *or* were once sick depending on what they look for.

When should you use a self-testing kit?

You may be interested in self-testing for COVID-19 if:
- You have been in contact or live with someone who has COVID-19,
- Developed COVID-19-like symptoms and/or have abnormal body measurements.

Online COVID-19 self-assessments can help you decide if you want to order a self-testing kit, but these assessments are not meant to replace professional health consultations. If you believe you have COVID-19, contact your primary care provider. If you are experiencing life-threatening symptoms, call 911 and notify them that you believe you have COVID-19.

[11] Tidy EJ, Shine B, Oke J, Hayward G. Home self-testing kits: helpful or harmful?. Br J Gen Pract. 2018;68(673):360-361. doi:10.3399/bjgp18X698021