



The Breathonix technology | Photo source [Breathonix](#)

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BREATH TEST AIMS TO DETECT COVID-19 WITHIN A MINUTE

 HEALTH & WELLBEING

With an accuracy rate of more than 90 per cent in clinical trials, Breathonix has developed a breath test that can detect COVID-19 in under 60 seconds

Spotted: Fast detection of COVID-19 has been the key to effective contact tracing and stemming the spread of the virus. With this in mind, Singapore startup Breathonix has developed a breath test that can detect COVID-19 within a minute.

Founded in 2019 by two National University of Singapore (NUS) graduates, Breathonix is a spinoff company of the local university and is supported by the NUS Graduate Research Innovation Programme. This new system is a notable move away from the current swab test, which is more intrusive and can take a few hours to identify the virus.

Breathonix's technology works by detecting the Volatile Organic Compounds (VOCs) present in a person's exhaled breath. These are consistently produced by various biochemical reactions in human cells, and different diseases cause specific changes to the compounds, resulting in detectable changes in a person's breath profile.

The test is straightforward to administer. Individuals will need to blow into a disposable mouthpiece connected to a high-precision breath sampler. The breath is collected and fed into a mass spectrometer for measurement. Its VOC profile is then analysed by a machine learning software, which produces results in under a minute.

Breathonix worked with the National Centre for Infectious Diseases to test its breath detection system. In a pilot clinical trial involving 180 patients, the integrated machine learning algorithm achieved more than 90 per cent accuracy. Its sensitivity rate, where it correctly identified individuals that were infected with COVID-19, was 93 per cent, and its specificity rate was 95 per cent, in which it correctly identified those who did not have the virus.

The clinical trials are ongoing, with more tests required to further improve the accuracy of the technology. If it receives approval, the system could potentially be rolled out at high human traffic areas such as airports and dormitories.

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Takeaway:

Swift detection of COVID-19 is key in slowing the spread of the virus, as it allows for effective contact tracing. Breathonix's technology can make a huge difference as it is able to detect the virus within a minute, allowing quicker mass testing and ultimately protecting hundreds of lives. Furthermore, it is a more comfortable way to get tested, as it is less intrusive than the swab test.