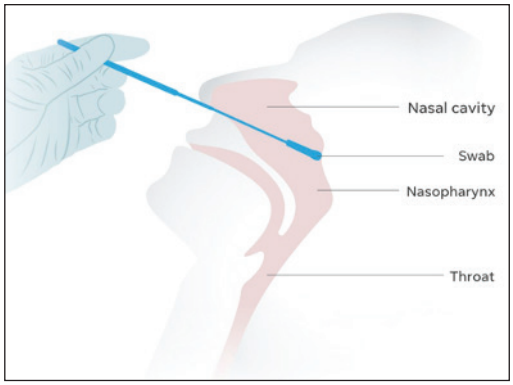
COVID-19 TESTING AND THE PORTABLE SANITATION INDUSTRY

As states begin moving toward reopening businesses and returning the economy to a slightly more normal footing, the issue of testing for COVID-19 looms as a critical piece of the puzzle. In short, with adequate testing we can control and minimize the effects of future outbreaks until a vaccine is available. The means our businesses will be more likely to operate without interruption and we can more quickly create a new normal. To prepare for that day, portable sanitation company leaders need to know how testing will affect their business.

Testing Has Multiple Meanings

The word "testing" is often used today to mean:

1. the knowledge or know how to figure out if a sick person has COVID-19 or whether any person—sick or not—is capable of transmitting COVID-19;
2. the act of using materials such as swabs, reagents, and testing sites to get samples from people that are then examined for COVID-19; and
3. the process of using both #1 and #2 above to gather and interpret data about what is really happening in an identified environment like a job site, school, or town.



Having a sound understanding of which tests should be used to support decisions is key as leaders discuss and develop processes to relax social distancing, address supply chain and logistics challenges, and make choices that may affect our portable sanitation businesses. Effective testing is also critical because it can save time and money. When we know how to avoid buying, using, and depending on the results of inaccurate and unreliable testing, everyone wins. Here are some basics to help you better evaluate information about testing for COVID-19.

Two Basic Categories of Testing

So far, health practitioners have employed two basic methods for determining whether or not an individual is infected with COVID-19. The first uses a nasal swab to collect mucus samples and the second involves a blood test to check for antibodies.

- **Testing for infection**. Experts say the nasal swab test is the best way to confirm someone is currently infected and can pass the virus onto others. This is most valuable in the wider containment strategy known as "test, trace, isolate and track," which decision-makers have generally adopted to prevent the spread of the disease at rates that are unmanageable.

  A swab is inserted through the nose or mouth to get a sample of mucus from the nasopharynx, the part of the upper respiratory tract sitting behind the nose and in the throat. The swab is then put in a container

where it is preserved until it can be examined at a lab. The lab looks for COVID-19 RNA, the genetic code of the actual virus.

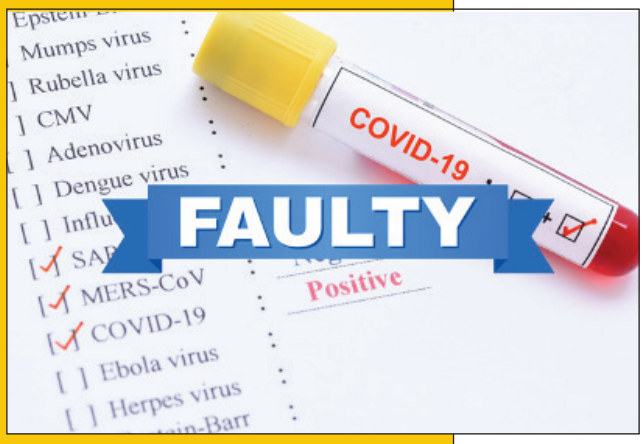
This test for infection can also help rule COVID-19 out if the person is sick with symptoms that look similar. The nasal swab test is particularly valuable because COVID-19 is detectable in the nose before antibodies can be detected in the blood. Thus, it can identify that a person is infected more quickly, allowing them to be isolated so that they are not infecting others before they're symptomatic.

- **Testing for antibodies**. This test requires a blood sample that is analyzed to see if antibodies to the SARS-CoV-2 virus—which causes COVID-19—are present. The antibodies show up as a person's immune system works to fight off the infection. Scientists think antibodies in the blood indicate the person has or recently had the illness. Two types of antibodies are involved in a body's response to the disease: IgM and IgG. They show up at different, overlapping times in the blood—sometimes up to three weeks from the time of infection according to the CDC. Since antibodies appear later than the virus that can be detected in a nose swab, this test isn't as effective for proactively stopping the spread of COVID-19.

What's the Hold up? It's Complicated

Even though these are the two main types of tests, there are many manufacturers and ways of conducting the procedures. There has been a rush to make tests, and so we are currently seeing complications that have to be solved before testing can become widespread, easily accessible, and accurate.

- We need to understand and demonstrate which of the testing products/procedures are the most reliable. Tests should detect the virus or antibodies only when they are there, and not when they are not there. Because of the rush to get testing products to market, the FDA waived a critical review process, so the current testing situation is muddled at best.



- We have to have the capacity to carry out widespread testing. To do this, we will need enough supplies for all the component parts of the tests we want to use. At the moment there is a critical shortage of swabs globally. There is also a lack of reagent—the substance added to the sample to cause a reaction if infection exists. We also have to have lab capacity, lab supplies, and people to do the work.

These issues will get resolved. They are already being addressed in record time, though not fast enough for those whose businesses are suffering. Once testing is available and reliable—now estimated as weeks to months away—portable sanitation companies, communities, and states will be able to use it to help control the spread of the disease. That's the best case scenario until a vaccine is developed. Learn more in the Testing Blueprint published by the White House in conjunction with its "Opening Up America Again" plan.

Immunity Is Elusive

In some places, conversation has been going on regarding the possibility that immunity can be achieved without a vaccine. At first, some experts theorized that once a person has had COVID-19 and the antibodies are present in their blood, the person would be immune to future incidences of the disease. That no longer appears likely.

The World Health Organization (WHO) issued a brief on Friday, April 24 stating that we simply do not know whether presence of antibodies make a person immune. The CDC confirmed the finding Monday, April 27 in a phone call on which the PSAI was present. In fact, there is evidence that some people are getting COVID-19 more than once. At this point, no one knows why.

This means that there is no shortcut to getting back to normal. Nothing would be achieved by just letting everyone become sick with COVID-19 and "just getting it over with" to achieve a so-called herd immunity, so do not base future planning on that model. The only path to true immunity is a preventive vaccine. That will take time to develop and to test on willing subjects.

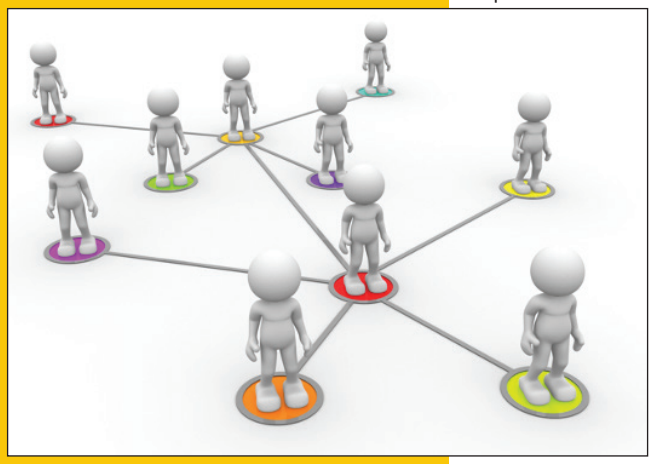
Vaccine: The Holy Grail of COVID-19

News sources are constantly speculating when a vaccine will be available. Some have thrown out short time frames (hoping for a vaccine before next fall's cold and flu season) and others have more cautiously spoken in terms of years. There are now 72 registered clinical trials for coronavirus treatments and vaccines in the U.S. and abroad, according to the Food and Drug Administration.

We can sum up the vaccine situation like this:

- At this point, no one knows how to make a vaccine that will definitely be effective against COVID-19. This is because:
  - ◊ We have 72 best guesses; we don't yet have a definite formula.
  - ◊ We haven't yet been able to conduct comprehensive trials on any of the best guesses. Those that are furthest along are still quite a distance from the finish line.
  - ◊ The virus is constantly changing.
- Once there is a formula and process for making the vaccine, it will take time to ramp up production to meet the global need. In the shorter run, vaccines will likely be available first to healthcare professionals and other first responders. There simply won't be enough for everyone for months or years after the formula is developed.

The best-case scenarios for developing and manufacturing a COVID-19 vaccine mean that enough doses for everyone are at least 18–24 months away. In the meantime, testing is the best answer we have.



How Testing Can Support Business Stability in the Near Term

Up to now, having no ability to tell who is carrying COVID-19 left decision-makers with only extreme choices to stop the spread. We all know the impact those have had on the economy.

When testing is readily available most businesses that can avoid close contact among workers will continue to operate. Since portable sanitation companies are already well on the way to developing work-arounds for close-contact tasks, our businesses should be able to run normally, except that we will continue to see higher demand for hand washing and significantly lower demand for event services for the foreseeable future. With easy access testing, only the people and the pockets where the disease is likely to be present will be required to isolate. Expect a program that looks something like this:

Program Elements	Tips
All employees will maintain social distances of six feet or greater, and social distancing procedures will remain largely in place elsewhere.	If you don't already have a plan for how your office and training programs will run with social distancing—and how your technicians will provide service—make one now. You'll need it soon.
Temperature checks upon arrival at work may become the norm.	If temp checks become common, consider investing in non-contact thermometers and create a policy for how it will work. Check the CDC's advice.
Employees with fevers and anyone who calls in sick will be encouraged to get tested.	Once testing becomes available, create a procedure for making these referrals.
Tested employees will self-isolate until the results are back. If the results are positive, they will continue to self-isolate until several days after the fever resolves and respiratory symptoms are much better.	Prepare yourself and your employees for contact tracing. Read more on the CDC website and begin thinking how your company might put it into practice if it affects other employees and customers.
Anyone identified by contact tracing will need to self-isolate for at least 14 days.	Losing an employee for 14 days is disruptive, but it allows the company and economy to continue operating.

In the end, we will have a new normal. A vaccine will allow us to again go about our business, but we will be forever changed. We will have developed new habits, some of which it will make sense to continue, because in the end, we will know it can happen again. And when it does, we want to be better prepared. We want to avoid the whole world having to stop what it is doing to shelter in place.

That, too, will depend upon testing.