

# For washing your hands, is it more effective to use soap and water or an alcohol-based sanitizer?

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“We found that there was no significant difference in removal/inactivation between ABHS and soap and that both were successful at reducing infectious particles on hands,” writes Marlene Wolfe. Credit: iStockphoto

Handwashing with soap and water or alcohol-based hand sanitizer (ABHS) is likely to be equally effective at removing and inactivating the spread of viruses, including the novel coronavirus that causes COVID-19, from hands. The most important practice to follow is for people to wash their hands frequently using either method and to avoid touching their faces with unwashed hands.

Some people question whether ABHS is an effective tool because [handwashing](#) with ABHS doesn't "clean" hands that are visibly soiled. In fact, ABHS does remove a [virus](#) from hands, so it should work equally well to avoid spread of the virus unless hands are heavily soiled. It is a particularly viable option for those who do not have immediate access to a sink.

There are two reasons why I believe the methods are likely to be equally effective. First, in a previous

study we looked at the removal and inactivation of a bacteriophage (Phi6—a type of virus that infects bacteria) that is enveloped, and therefore a good surrogate for the novel [coronavirus](#). We found that there was no significant difference in removal/inactivation between ABHS and soap and that both were successful at reducing infectious particles on hands.

Second, in a review of similar experiments investigating the efficacy of handwashing in a lab setting, there was no [significant difference](#) in removal/inactivation of viruses between handwashing with soap and alcohol-based [hand sanitizer](#). There is some indication that viruses that are enveloped are more susceptible to ABHS than viruses that are not, giving us extra confidence that ABHS should be effective against COVID-19.

Of course, there is a big caveat in all this, which is that we are making these judgments based on the best available evidence from other organisms that are likely to respond similarly to COVID-19, and there may be ways in which it differs from other viruses and phages that are reasonable comparisons.

It's worth noting that ABHS has been sold out in many stores and is difficult to obtain. However, the [WHO recommends that a dilute chlorine solution](#) can be used in cases where there is no access to [soap](#) and water or ABHS.

As with any ongoing study of a novel coronavirus, more research is needed to come to a conclusive understanding. Until then, the public should take seriously the warnings of local and national [public health authorities](#), and follow the [recommendations of the CDC](#) including frequent and thorough handwashing, to minimize the spread of the virus.

Provided by Tufts University

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