

Scientists seek COVID protection boost for people with weakened immunity

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People's immune systems can be suppressed by disease—or by treatments taken to deal with other conditions.

How effective are COVID vaccines if your immune system is compromised by HIV, cancer or a recent organ transplant?

Faced with very little data—and fears that some of these patients could be particularly vulnerable to the virus—scientists are seeking to figure out how to best protect them.

In one of the largest research projects into the issue so far, dozens of French hospitals have launched a two-year study of some 10,000 people to help shine light onto how people with these conditions respond to immunisation for the coronavirus.

"The goal is to find out how we can best protect those patients," the study's head Odile Launay told AFP.

Authorities like the United States Centers for Disease Control and Prevention say people with compromised immune systems can receive the vaccine, but stress that there is still little data on safety.

"If you have a condition or are taking medications that weaken your [immune system](#), you may NOT be fully protected even if you are fully vaccinated," the CDC adds, urging people to continue to take precautions and to consult their doctor.

Multiple doses

People's immune systems can be suppressed by disease—or by treatments taken to deal with other conditions—and this may mean their body has trouble producing the antibodies vaccines are meant to trigger.

Conditions where this might be the case include diabetes, obesity, cancer, organ and [bone marrow transplants](#), chronic severe kidney failure, HIV or multiple sclerosis.

In the case of a transplant, a patient's [immune response](#) is suppressed on purpose to prevent his or her body from attacking the new organ.

Another French study published in the *New England Journal of Medicine* looked at 100 [transplant patients](#) and found their immune response to vaccines was insufficient after two doses.

Scientists recommended three doses for those patients, which is now the rule in France.

The new study, which involves 30 hospitals and has been signing up participants since March, is aiming for 8,650 participants with compromised immune systems and a control group of 1,850 uncompromised people.

Participants will have their blood drawn to measure the presence of antibodies at the time of vaccination and then again after one month, six months, one year and then two years after the last dose.

"The data will allow us to adapt our vaccine recommendations to specific patient populations," Launay said.

Other measures

Health authorities could for example decide to shorten the waiting period between the first dose and the two or three booster shots that would likely follow for immune compromised patients.

And in cases where vaccines failed to produce any results, doctors would opt for other strategies like vaccinating the patient's family and caregivers and maintaining social distancing.

If a [vaccine](#) failure results in infection with COVID-19, researchers will also sequence the virus.

This could pick up whether the illness is caused by an existing

variant—or even pick up any new mutations.

While the COVID-19 virus typically infects individuals for around 10 days before being neutralised by the body, some studies have shown that certain patients, particularly those with compromised immune systems, may carry it for several weeks or longer.

This increases the window of opportunity for the virus to mutate, potentially resulting in new variants.

A similar study was launched in the UK in March, which will monitor 5,000 immunocompromised [patients](#)' responses to COVID-19 vaccinations.

"We urgently need to understand if patient populations with chronic conditions such as cancer, inflammatory arthritis and kidney and liver disease are likely to be well-protected by current COVID-19 vaccines," lead researcher Iain McInnes of the University of Glasgow said at the time.

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