

An Old Vaccine May Help Against Coronavirus

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The Global Virus Network is a collaboration among virology researchers and social scientists to improve pandemic preparedness and response. We know that life must go on while work on a COVID-19 vaccine continues. We believe that as people return to work, their risk of infection can be minimized by applying an old vaccine known to be a potent stimulus of the innate immune system.

Whether there will be a COVID-specific vaccine is still unclear. The sequence of the COVID-19 viral genome, published in January by Chinese scientists, can identify proteins to be targeted by a vaccine. But verifying its safety and measuring the duration of its effectiveness, if any, will likely take another year. And what if the virus develops and mutates, as it is already doing? Vaccines against the common flu have been less than 50% reliable against new mutations in recent years.

An innate-immunity vaccine can provide nonspecific protection against a range of viruses and become effective in hours, not weeks.

The innate immune system is the body's first line of defense. Recent studies using one of innate immunity's main components, interferon, have shown positive results in dampening the coronavirus and controlling the body's inflammatory response.

We suggest the Sabin Oral Polio Vaccine, or OPV, as an ideal way to stimulate native emergency immune response to COVID while work on a targeted vaccine continues. OPV has a 70-year track record in protecting against polio, and almost 50 years ago Russian virologists discovered that it is also protective against other viruses. It reduced influenza by 3.8-fold — better than specific influenza vaccines. Other vaccines, including one for measles, can do the same. [Ed: For more about OPV vs IPV see [here](#).]

We propose OPV because of its availability, simplicity (a tablet), very low cost and decades long safety record. No toxicity has been observed in populations already vaccinated against polio. Even in an unvaccinated population, side effects are rare. Billions of people have received OPV, including nearly everyone in the U.S. between 1962 and 2000.

Past studies suggest that this protection from innate immunity could last for several months, and repeat vaccination might be done to extend innate immunity considerably longer. This approach should provide ample time for economies to normalize while the investigation of COVID-specific vaccine candidates continues over the next year or two.

Stimulating the innate immune system with OPV looks like an inexpensive and safe option for saving lives while we wait for an effective COVID-19 vaccine.

Dr. Robert Charles Gallo is an American biomedical researcher. He is best known for his role in the discovery of the human immunodeficiency virus (HIV) as the infectious agent responsible for acquired immune deficiency syndrome (AIDS) and in the development of the HIV blood test, and he has been a major contributor to subsequent HIV research.

Gallo is the director and co-founder of the Institute of Human Virology (IHV) at the University of Maryland School of Medicine in Baltimore, Maryland. In November 2011, Gallo was named the first Homer & Martha Gudelsky Distinguished Professor in Medicine. Gallo is also a co-founder of biotechnology company Profectus BioSciences, Inc. and co-founder and scientific director of the Global Virus Network.

Mr. Arbess is CEO of Xerion Investments and a member of the Global Virus Community's board.

Here is an earlier [discussion](#) on this topic between Dr. Gallo and PBS