Polio vaccines are inexpensive, easily available, already approved—and they might work wonders against COVID-19

Recent reports indicate that COVID-19 may result in suppressed innate immune responses. Therefore, stimulation by live attenuated vaccines [such as the polio vaccine] could increase resistance to infection by the causal virus, severe acute respiratory syndrome–coronavirus 2 (SARS-CoV-2). Clinical studies of this hypothesis could begin immediately. [Tuberculosis vaccine] trials have already been initiated by immunizing frontline health care workers. The endpoint of these trials is the difference in COVID-19 incidence, duration, and severity between immunized and unimmunized populations.

We propose the use of OPV to ameliorate or prevent COVID-19. Both poliovirus and coronavirus are positive-strand RNA viruses; therefore, it is likely that they may induce and be affected by common innate immunity mechanisms. There are multiple important advantages to using OPV: a strong safety record, the existence of more than one serotype that could be used sequentially to prolong protection, low cost, ease of administration, and availability. Over 1 billion doses of OPV are produced and used annually in more than 140 countries. Although the supply of BCG is limited, a small fraction of OPV intended for the suspended polio eradication campaign would be sufficient for the clinical trials, and provided a positive outcome, production could likely be scaled up quickly.

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If proven to be effective against COVID-19, emergency immunization with live attenuated vaccines could be used for protection against other unrelated emerging pathogens.

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