

21 April 2020

## **BRIEF19**

*A daily review of covid-19 research and policy.*

### **RESEARCH BRIEFING**

#### **Confirmed ways to decontaminate and reuse N95 masks.**

With PPE shortages occurring in coronavirus hot spots, effective methods for decontamination and reuse of limited resources has become an area of high interest. The National Institutes of Health (NIH) has [released a preprint](#) comparing different techniques. The study compared ultraviolet radiation at 260-285 nanometers, 70° Celsius heat, 70 percent ethanol, and vaporized hydrogen peroxide (VHP) in their ability to reduce contamination. They also assessed whether these processes damage the N95 mask material over several cleanings. Masks were subjected to two hours of continuous wear followed by a cleaning cycle for a total of three cycles. They were evaluated based on inactivation rates of the virus on mask material compared to stainless steel. Tests were also done to determine how many viral particles violate recycled masks. The ethanol and VHP methods most rapidly inactivated the virus on N95 masks, while UV light and heat had similar rates of inactivation. After the initial round of wear and decontamination there were no significant differences between mask integrity, but after subsequent rounds, sharp drops in the effectiveness of the alcohol and heat-treated masks were seen. The UV and VHP-treated masks maintained acceptable function through the entire phase of testing. Overall, the study shows superiority of VHP treatment for both speed of decontamination and retained function and supports up to three cycles of cleaning for equipment reuse. *The National Institutes of Health.*

*--Joshua Lesko, MD @joshualeskomd*

#### **What is the optimum distance or formation to "social distance" when exercising outside?**

With the weather warming up, people may be trying to exercise outside while still maintaining social distancing guidelines. Many people will follow the 6 feet apart rule suggested by the CDC. But others may believe that being outdoors decreases exposure. A recent [preprint](#) entitled "Towards aerodynamically equivalent COVID-19 1.5m social distancing for walking and running" attempts to address this issue. Researchers in the Netherlands and Belgium looked at the "social distance" guideline of 1.5 meter (~5 feet). They studied whether the passage of droplets in the air would be affected when individuals are not standing still or when individuals are exercising. In the non-mobile individual, droplets are expected to fall to the floor before passing the 1.5 meter distance. But what about walking, running or cycling? Conducting a simulation study in a windless environment, the researchers investigated the passage of droplets when walking and running, as well as different situations--including determining what happens when individuals pass each other side by side, inline, or are staggered. The greatest exposure was found in those walking or running inline, especially for the person in the back of the pack. The authors suggest that people running or walking should either do so side by side or in a staggered formation. Another option might include increasing social distancing to greater than 5 or 6 feet, depending on the speed of exercise. The researchers have created a brief [30 second video](#) that shows the simulated effects of the droplets with various forms of exercise.

*--Christopher Sampson, MD, FACEP @sampx*

## **POLICY BRIEFING**

### **Bowling alone.**

Georgia's Brian Kemp was one of several governors who [announced](#) plans on Monday to allow some businesses to reopen. Governor Kemp, a Republican, said that barber shops, tattoo parlors, bowling alleys, and gyms would be able to reopen as early as Friday, while movie theaters and sit-down restaurants could open next Monday. Governor Kemp said that his state had met the [criteria](#) to move to Phase 1 under President Trump's Opening Up America Plan, including seeing a downward trend in symptoms and cases. Governor Kemp's announcement left unanswered questions, such as how tattoo artists and barbers would observe social distancing measures. Governor Kemp also reiterated that the shelter in place order he issued earlier this month will [remain in effect](#) through April 30, making it unclear if residents are supposed to patronize the reopened businesses. The governor said that municipalities would not be permitted to issue more stringent restrictions than what he is issuing at the state level. *NPR*.

### **Is a public-private partnership the cure for covid-19?**

Hundreds of potential therapies for covid-19 are being tested right now. In order to standardize the evaluation of these treatments, and to only advance the most promising, the National Institutes of Health has [announced](#) a partnership between federal researchers and 16 drug companies called Accelerating Covid-19 Therapeutic Interventions and Vaccines, or ACTIV. Among other things, the collaboration will set standardized endpoints so that potential therapies are being measured in the same way and will create a single control arm. *Stat News*.

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*Brief19* is a daily executive summary of covid-19-related medical research, news, and public policy. It was founded and created by frontline emergency medicine physicians with expertise in medical research critique, health policy, and public policy.