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BRIEF19

A daily review of covid-19 research and policy

RESEARCH BRIEFING

Facemasks have no effect on oxygen levels—even in users with existing lung disease.

One of the great unfounded and highly misleading notions about mask wearing is that prolonged use leads to decreased delivery of oxygen to the lungs and increased carbon dioxide retention. This argument is easily discredited by over 100 years of safe mask use, and now researchers at the University of Miami have released confirmatory findings in [*Annals of the American Thoracic Society*](#).

The authors primarily studied whether any gas exchange abnormalities (eg. oxygen and carbon dioxide) can occur in those who wear masks by comparing healthy subjects and those with underlying pulmonary disease such as Chronic Obstructive Pulmonary Disease (COPD, or emphysema). COPD patients are at a baseline risk of increased carbon dioxide retention.

A group of 15 physicians in training (median age 31) was compared to 15 military veterans (median age of 71.6). The veteran group was 100 percent male compared to 60 percent of the physician group.

Measurements of oxygen saturation and end-tidal carbon dioxide (the amount exhaled) were recorded with and without masks being worn. The COPD group was also assessed during a routine 6 minute walk test performed in the clinic. After 5 and 30 minutes, no major changes in either value of gas exchange was detected. The COPD group had additional routine blood work performed as part of their clinical assessment. None of the subjects demonstrated the often falsely reported dangers of carbon dioxide retention from mask use.

This simple study exhibits that surgical face masks affect neither healthy individuals nor those with underlying lung disease with respect to impairing normal breathing function. It is important to note that surgical masks were studied, which are recommended for the general public, and not N-95s worn by healthcare providers in high risk settings. Much of the discomfort that some people have reported related to mask wearing is likely related to neurological reactions or psychological phenomena such as anxiety. Hopefully these results along with other studies can help improve public confidence about the safety of mask wearing to help prevent the spread of covid-19.

—*Christopher Sampson, MD, FACEP*

POLICY BRIEFING

Confirmation of new transmission vector; CDC says some airborne spread possible.

The Centers for Disease Control and Prevention (CDC) has been under significant scrutiny during the pandemic, most recently for [conflicting](#) messaging on whether or not the novel coronavirus can be transmitted by airborne methods.

On Monday, the CDC [updated](#) its transmission page, confirming the possibility of airborne transmission. While acknowledging that there are some instances wherein particles can remain in the air for hours, the agency implies this is limited to situations where infected individuals are breathing heavily, as when exercising and when in enclosed spaces, but emphasizes that the primary method of transmission remains through extended close contact. This close contact still includes spread through the air, though; the distinction is whether viral particles are transmitted in the air from one person directly to the next (droplet spread) or whether particles floating for hours can infect others who have not been in close physical contact with an infected person.

Despite this new information, the CDC has made no changes to any physical or social distancing recommendations. *The Centers for Disease Control and Prevention.*

—Joshua Lesko, MD

End of the road for long-haulers?

When does coronavirus treatment end? It seems like a simple question, but it shows just how little we know about the long-term effects of the covid-19. As we move deeper into the pandemic, more data is emerging about the prolonged inflammatory response and associated syndromes that require extended care. Under relief packages passed by Congress, insurance providers cannot charge for diagnostic testing and contact tracing, but so far there have been no such protections for therapies.

Under the current system, the Affordable Care Act prevents individuals from being denied coverage for preexisting conditions, but as there are currently multiple challenges to the law's validity which are to be considered by the Supreme Court. As the extent of the virus' long-term effects remain unknown, the question remains: how will patients pay for these treatment needs and what will Congress consider care that is "related" to covid-19?

—Joshua Lesko, MD

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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 and public policy.