

Mask Safety and CO2

As stay at home orders are lifted and businesses reopen, many people are trying to prevent the spread of COVID-19 by wearing masks as they venture out.

COVID-19 can be spread by people who do not have symptoms and may not know if they are infected. The Centers for Disease Control and Prevention (CDC) recommends anyone older than two years old wear a cloth face covering in public settings where physical distancing measures are difficult to maintain.

[These recommendations](#) are not without controversy, however. Some worry about the safety of masks, citing the danger of breathing elevated levels of carbon dioxide (CO₂), a naturally occurring gas contained in the air we exhale.

While it is true that CO₂ can be dangerous, OSF HealthCare pulmonologist Dr. Michael Peil says only at very high levels.

He maintains that the recommended cloth masks don't pose much of a risk at all.

"The carbon dioxide is going to pass right through the face mask, we are going to inhale fresh air through that, so there really is no opportunity for carbon dioxide to build up unnaturally," explained Dr. Peil.

He continued, "CO₂, or carbon dioxide, will not attach itself to the mask, so it can't be re-inhaled that way. And even if it did, it would be a very small amount. But the fact is, it just doesn't happen that way."

Dr. Peil admits breathing discomfort from wearing a mask can happen, but it shouldn't be alarming.

"The reason people feel stuffy when they are breathing that is because there is probably a slight increase in temperature on the surface covering the mask, and that's because we're exhaling warm, moist air," he said. "And the other thing that happens is that the moisture starts collecting both on the skin that's under the mask and probably on the mask itself."

Cloth and disposable paper masks are generally safe for people with mild to moderate breathing problems like asthma or COPD. However, Dr. Peil says these patients should avoid very tight fitting masks like hospital-grade N95s.

For those with severe disease, he recommends they speak with their physician about what is best for them.

"If people have very severe disease, they simply might not be able to tolerate even the cloth masks, but again, simple removal frequently or periodically will usually allow them to sort of refresh themselves and not be as uncomfortable."

Even as restrictions are loosened, until a vaccine is developed, the best way to prevent illness is to avoid being exposed to the virus. That means staying at home as much as possible, avoiding large crowds, wearing a mask and practicing physical distancing when you do go out.

For more information on COVID-19, including frequently asked questions, please visit the OSF HealthCare COVID-19 digital health hub: www.osfhealthcare.org/covid19/.

If you are experiencing COVID-19 symptoms and it is not an emergency, use one of the digital care options offered by OSF. You can connect through Clare, a digital assistant available through the OSF website, or by calling the 24/7 nurse hotline at 833-OSF-KNOW (833-673-5669).