

New research studies the impact of face masks on heart rate

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Researchers at University Hospitals Rainbow Babies & Children's Hospital (UH Rainbow) published new findings today that wearing a face mask—either a cloth mask or a surgical mask—did not impair the

ability of subjects to get air in and out of their bodies.

The study measured [heart rate](#), transcutaneous carbon dioxide tension, and [oxygen levels](#) in 50 adult volunteers at the conclusion of six 10-minute phases: Sitting quietly and then walking briskly without a mask; sitting quietly and then walking briskly while wearing a cloth mask; and sitting quietly and then walking briskly while wearing a surgical mask. The median age of participation was 33 years and 32 percent of participants indicated they have a chronic health condition such as asthma.

In the study, not a single participant developed a low level of oxygen or high level of carbon dioxide in the blood while wearing a cloth or surgical mask either at rest or during exercise. According to the study's principal investigator, Steven L. Shein, MD, Division Chief of Pediatric Critical Care Medicine at UH Rainbow Babies & Children's Hospital, the risk to the general adult population of having significantly abnormal levels of oxygen or carbon dioxide when wearing a cloth or surgical mask is near-zero.

"We know [face masks](#) help to prevent the spread of COVID-19, but we also know people have concerns of discomfort or impaired breathing while wearing them," says Dr. Shein, who is also the Linsalata Chair in Pediatric Critical Care and Emergency Medicine, and Associate Professor of Pediatrics at Case Western Reserve University School of Medicine. "Our hope is these findings will reassure people that their body is able to adequately get oxygen in and [carbon dioxide](#) out while wearing a face covering."

Provided by University Hospitals Cleveland Medical Center

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