

# Kinesiology study finds that face masks and exercise do mix

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Wearing a face mask while you exercise won't impair your workout, according to a study by Kansas State University kinesiology researchers from the College of Health and Human Sciences.

The research team studied 11 healthy adult males and females while performing incremental intensities of recreational cycling, from rest to exhaustion, and wearing three different types of face masks—surgical, flannel and vertical-fold N95—or no mask.

Regardless of the mask or intensity of exercise, the team found that [face masks](#) did not compromise oxygen levels in the blood or lead to hypercapnia, the buildup of carbon dioxide in the bloodstream.

The research team included Carl Ade, associate professor of kinesiology, and kinesiology graduate students Vanessa-Rose Turpin, Shannon Parr, Stephen Hammond, Zachary White, Ramona Weber, Kiana Schulze and Trenton Colburn, along with David Poole, university distinguished professor of kinesiology, and anatomy and physiology. Their study "Does wearing a face mask decrease arterial blood oxygenation and impair [exercise tolerance](#)?" was recently published in the journal Respiratory and Physiology & Neurobiology.

"The team did find that while wearing [masks](#) increased feelings of shortness of breath, maximal exercise capacity was not compromised nor were there any significant alternations of primary cardiovascular responses, including arterial pressure, stroke volume and [cardiac output](#), regardless of exercise intensity," Ade said.

"These data support that wearing a mask, especially when indoors and in [close proximity](#) to others, should not be perceived as a barrier to exercise performance," Poole said.

The findings also show why it's important to stay active, even during a pandemic.

"Fitbit data from around the world indicate that [physical activity](#) has been substantially reduced during the COVID-19 pandemic," Poole said.

"And yet, physical activity is crucial for our mental and physical health. Protecting our cardiovascular and immune systems is extra important, particularly during this time of COVID."

**More information:** Carl J. Ade et al, Does wearing a facemask decrease arterial blood oxygenation and impair exercise tolerance?, *Respiratory Physiology & Neurobiology* (2021). [DOI: 10.1016/j.resp.2021.103765](https://doi.org/10.1016/j.resp.2021.103765)

Provided by Kansas State University

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