December 20, 2021

An Open Letter to the CCSU School Board,

A Dozen Medical Providers recently sent a letter to the Danville Selectboard.

In the letter, they refer to the results of a study called:

Return to training in the COVID-19 era:
The physiological effects of face masks during exercise

which examined the physical effects of wearing an N-95 and a surgical mask during 20 minutes of exercise in an air-conditioned room.

All 16 participants were young, healthy, athletic men.

Here are some direct quotes from the study:

"Interpretation and generalization of our results should be cautious at this point as we tested the … effect of applying a mask during exercise only on healthy non-smoking volunteers."

"Our study has some additional limitations. First, the effect of surgical masks and N95 respirators was not tested in a large number of subjects and the effect of factors such as fitness, gender (only males were included in this trial), age, and Body Mass Index should be additionally addressed."

"Our findings demonstrate that… physical activity with a face mask is associated with a mild but significant rise in carbon dioxide… which is more prominent as the level of the workout is increased."

"…as shown in previous studies, wearing an N95 respirator during aerobic activity is associated with increased **EtCO2** ***[Carbon Dioxide in the exhaled breath]*** at rest and any level of exertion…"

"[Previous] researchers found dead space Carbon Dioxide and Oxygen levels were significantly above and below, respectively, the ambient workplace standards [set by OSHA]."

"The increase in [Carbon Dioxide concentrations] may be explained by the fact that re-breathing of the expired air which remains within the mask practically increases the dead space and may contribute to mild **hypercapnia**."

Hypercapnia **=** Carbon Dioxide poisoning

"Prolonged exposure to mildly increased levels of Carbon Dioxide is commonly referred to as 'sick building syndrome' and may cause headache, fatigue, difficulty concentrating, and increase in Heart Rate and Blood Pressure."

“The effect of mild and short-term elevation of [blood CO2 levels] on physical and cognitive performances is unknown.”

“The effect of prolonged training with a mask on physical and cognitive performances was beyond the scope of this study and should be evaluated prospectively.”

“Subjects with obstructive lung diseases such as asthma or COPD and heart diseases should undergo meticulous evaluation before attempting physical activity with a mask.”

“Interpretation and generalization of our results should be cautious at this point as we tested the physiological effect of applying a mask during exercise only on healthy non-smoking volunteers.”

“The safety of face masks should be evaluated in specifically designed studies before considering physical activity with a respirator in these unique populations.”

In light of this evidence provided by local medical professionals, I urge you to schedule an Emergency School Board meeting to assess if the school’s current practices around the use of masks are sufficient to protect the health or our students and staff.

Thank you.
Sincerely,
Amy Hornblas