

October 1, 2020

My name is Dr. Pat M. Fidopiastis and I am a Professor of Microbiology at Cal Poly. I'm writing on behalf of The California Indoor Climbing Coalition, who is requesting permission to open indoor climbing at reduced capacity. My reasons for supporting the coalition in their goal to re-open are two-fold: 1) I feel the benchmarks for "cases" outlined in the tiered system are arbitrary, and 2) climbing gyms have many unique attributes that make them easy to operate safely.

Arbitrary nature of the tiered system

Levels of risk (i.e. "tiers") are determined based on "cases." "Cases" are defined using either clinical or laboratory criteria. Clinical criteria include a range of clinical symptoms, with or without a "positive" test. Laboratory criteria include detection of SARS CoV2 RNA, and/or antigen, and/or antibody in an individual. The clinical criteria: chills, rigor, myalgia, headache, sore throat, etc. closely align with influenza, Legionnaire's disease, streptococcal, or pneumocystis pneumonia, etc. Furthermore, there are hundreds of thousands of hospital-acquired lung infections per year. If a clinical definition of COVID-19 can be sufficient without "positive" testing, how many COVID-19 cases are being misdiagnosed? Furthermore, our increasing reliance on RT qPCR to define a "case" is concerning. RT qPCR is an extraordinarily sensitive method for detecting bits of virus RNA in nasal or oropharyngeal swabs, with no information on whether the source of the RNA was a fully infectious virus. People infected with RNA viruses, such as SARS CoV2, tend to be contagious for a period of about 1-3 weeks. However, after that period they can shed harmless virus RNA for months. What exactly does it mean when a highly sensitive method is used to detect virus RNA in a person? Is it "good science" to use these data as our primary criteria for making serious economic decisions that threaten people's livelihoods?

Climbing gyms have many unique attributes that make them easy to operate safely

Soon-to-be-published research from De Montfort University revealed that the number of infectious coronavirus (they used a close relative of SARS CoV2) drops by 99% in less than 1-minute following exposure to magnesium carbonate and calcium carbonate, the components in powdered climbing chalk. This study is significant because they didn't just use a technique that picks up bits of virus RNA, they actually measured infectivity of the viruses that were deposited in the chalk. One can assume that with additional time, virus infectivity would be reduced to practically zero.

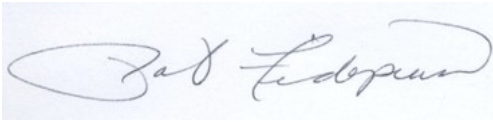
In a follow up to the work on powdered chalk, researchers at the University of Colorado School of Medicine showed that liquid climbing chalk inactivated SARS CoV2. Again, these researchers actually exposed SARS CoV2 to liquid climbing chalk ("Secret Stuff") and then assessed virus infectivity in lab culture. The antiviral properties can be attributed to the alcohol content as well as the magnesium and calcium carbonate. The typical alcohol content of liquid climbing chalk is between 40-80% depending on the brand. Published research shows that even the lower end (i.e. 40%) alcohol percentage will render SARS CoV2 inactive. However, the combination of antiviral effects of the powder and alcohol provides synergistic antiviral activity.

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The combination of the antiviral activity of chalk from climber's hands, regular cleaning protocols proposed by the gyms in the coalition, tall ceilings, large spaces for distancing, mask usage, and the overall good health of the clientele makes climbing gyms an extremely low risk for SARS CoV2 transmission.



Sincerely,
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