

Safety Considerations while Exercising during COVID-19

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Key Points

- **Wearing a cloth face covering during exercise is effective to decrease viral droplet transmission.**
- **Not all situations, however, require a mask when exercising (e.g. outdoors alone).**
- **Factors to consider when making a decision to wear a mask during exercise include ambient temperature and air circulation, work of breathing and its effects on heart rate, intensity of the exercise, indoor vs. outdoor exercise, the concentration of people in the area, and comfort.**

Regular exercise is beneficial to promote health and longevity; however, the decision to wear or not wear a mask during exercise to prevent the spread of COVID-19 is quite complex. Deciding whether to wear a mask involves considering factors including ambient temperature and air circulation, work of breathing and the effects on heart rate, intensity of exercise, indoor or outdoor exercise, concentration of people in the area, and, of course, comfort. Though, a previous study performed on medical professionals demonstrated that an increase in body core temperature while wearing a surgical mask for *extended* (6+ hours) periods of time to be detrimental to performance, most every day exercisers don't exceed an hour or two during training ⁵. When we exercise, our core body temperature typically increases and is naturally off-set by the body's compensatory mechanisms such as the expansion of small blood vessels and sweating to release excess heat. Wearing a cloth face covering would likely further increase body temperature over long periods. However, exercising for a period of time that extends to at most two hours while wearing a cloth face covering could be more beneficial to the body overall as it will protect against the spread of COVID-19 ⁴.

When exercising, the work of breathing also increases. As a result, our bodies take deeper and harder breaths, releasing more droplets into the surrounding area, increasing even more with intense exercise ³. A recent study discovered that a six-foot distance between exercisers is not enough space to prevent transmission of droplets ¹. Rather, a 16-foot distance between exercisers appears to be more adequate [Figure 1]. In well populated areas, it is not always feasible to keep a 16-foot distance between exercisers, so wearing a cloth face covering as the CDC emphasizes, significantly reduces the risk of viral droplet transmission.

During aerobic exercise, heart rate increases, which can be further increased when wearing a mask while exercising. Previous studies have shown that the thicker the material of the mask, the greater the increase in work of breathing and heart rate compared with not wearing a mask during the same activity². Although, the study further showed that the increase in heart rate with a face mask yielded little to no adverse effects². Essentially, the more restrictive the cloth face covering material, the greater the increase in heart rate.

Should you wear a mask during exercise? It depends. If, for example, you are exercising in an area relatively void of people, wearing a cloth face covering may not be necessary. However, the

next time that you exercise in a well-populated area such as a local park or gym, think of the impact you may be making on others around you by wearing a cloth face covering. The harder you breathe during intense exercise, the more viral droplets you could potentially spew across a larger area, increasing the risk of infecting others. Consider this the next time you head out the door to “get your fit on”.

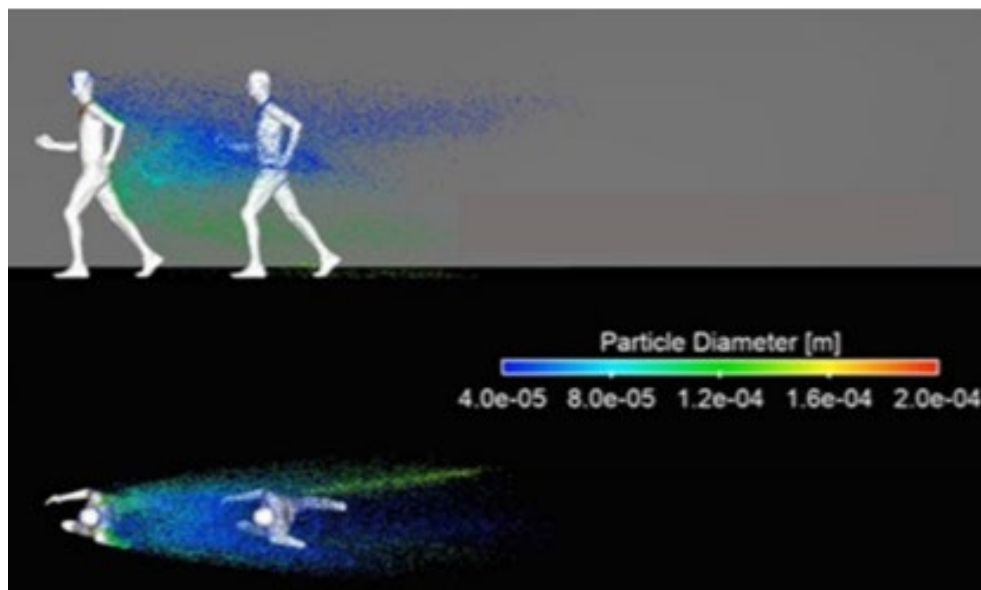


Figure 1: Need for 16-foot distance when exercising in a populated area to prevent reception of droplet transmission. Figure taken from: http://www.urbanphysics.net/COVID19_Aero_Paper.pdf

References

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