



## Exercising with a Face Covering – FAQs

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In response to the growing interest and demand for trusted information about exercising with a face covering, the American Council on Exercise (ACE) created this set of frequently asked questions (FAQs) as well as a [blog](#) and [recorded webinar](#).

The following FAQs were developed in partnership with leading scientists and in-house experts. These FAQs are intended for informational purposes and are rooted in the best currently available scientific research. Please consult with a physician for questions relating to your and/or your client's specific medical situation.

### Exercising with a Face Covering – FAQs

1. Should exercise professionals and clients wear face masks while exercising and are there any specific considerations regarding exercise intensity?
2. Are there any special considerations for clients at certain ages or with specific health conditions, diseases or disorders?
3. What type of face covering should be worn while exercising? Are reusable or cloth face masks preferred to disposable ones? Also, are homemade face masks effective?
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9. Should cloth face coverings be used during aquatic exercise and water-based activities?

## **Question 1: Should exercise professionals and clients wear face masks while exercising and are there any specific considerations regarding exercise intensity?**

**Answer:** The Centers for Disease Control and Prevention (CDC) presently recommend that everyone wear a cloth face covering (or face mask) in public settings where other social-distancing measures are difficult to maintain in order to slow the spread of COVID-19. [Specific recommendations](#) include the following:

- Wear a cloth face covering when interacting with other people to minimize the risk of transmitting the virus. Wearing cloth face coverings is most important when physical distancing is difficult and when exercise type and intensity allows.
- Consider doing any vigorous-intensity exercise outside when possible and stay at least 6 feet away from other participants, trainers, and clients if unable to wear a face covering.
- If possible, wear a face covering when walking on an indoor track or when doing stretching or low-intensity forms of yoga indoors.
- Wash your hands before adjusting your face covering.

Most people can perform their regular workouts while wearing a face covering, which will provide protection from virus spread for everyone. It is essential to remind clients to monitor how they feel during the workout and to take particular notice if they feel dizzy, lightheaded or short of breath. If so, they should slow down or reduce the exercise intensity and/or stop exercising until these symptoms go away. If a client stops exercising due to shortness of breath and they remain short of breath, have them remove the covering to allow for better air flow into the lungs. Remember, these symptoms (i.e., dizziness, lightheadedness and shortness of breath) during exercise may also reflect a number of health conditions, including overexertion (particularly if a person hasn't worked out for some time or at his or her usual intensity levels, due to stay-at-home rules), dehydration, low blood pressure, low blood glucose, heart arrhythmia (sometimes exercise triggers an irregular heart rhythm) or lack of oxygen.

Monitoring exercise intensity is always essential for a safe and effective workout, whether the person is wearing a face mask or not. Clients should be encouraged to use a rating of perceived exertion (RPE) in combination with heart rate to monitor exercise intensity. Advise clients to allow their cardiorespiratory system time to gradually adapt to the slight restriction of air flow from the face mask, as wearing any type of covering over the nose and mouth while exercising is likely to [reduce the flow of oxygen into a person's lungs](#). Some workouts, such as high-intensity interval training (HIIT), which have been shown to be very demanding on the cardiorespiratory system, may feel a little more difficult. This could be a direct result of reduced amounts of oxygen reaching the vigorously exercising muscles. Less oxygen to exercising skeletal muscle reduces the adenosine triphosphate (ATP) production to provide the needed energy to maintain the exercise intensity and duration. Therefore, a slightly lowered oxygen level in the muscle is a [central contributing factor](#) to fatigue. Some exercisers who wear face masks may notice they are not able to complete an otherwise “normal” workout, or they may feel more fatigued than usual during and after the workout.

To minimize early symptoms of fatigue during exercise when wearing a face mask, exercise professionals should encourage clients not to push themselves as hard as usual. Fitness adaptations to changes in overload during workout programs usually take weeks to occur. Therefore, educate clients that it may take several workouts before they are training at their regular exercise intensities while wearing face masks.

The [CDC](#) also says that individuals engaged in high-intensity activities may not be able to wear a cloth face covering if it causes difficulty breathing. If a client is not able to wear a cloth face covering while exercising, consider having them perform the activity in a location with greater ventilation and air exchange, such as outside, while maintaining physical distance from others.

## **[Question 2: Are there any special considerations for clients at certain ages or with specific health conditions, diseases or disorders?](#)**

**Answer:** Yes, let's take a look at the guidelines for individuals with various conditions.

**Children.** Children should wear a cloth face mask that fits their face and is comfortable but snug during exercise. Children should follow the same safety instructions for adults, though children under the age of two should not wear a mask.

**Pregnancy.** The American College of Obstetricians and Gynecologists (ACOG) suggests that it is important to stay healthy during pregnancy and that pregnant women should follow the usual recommendations for exercise during pregnancy. ACOG encourages women to be mindful and to stay at home or away from others while exercising. The CDC recommends that pregnant women wear a face covering when in public. Several studies have specifically addressed the use of masks and respirators during pregnancy:

- [Respiratory consequences of N95-type mask usage in pregnant healthcare workers](#)
- [N95 respiratory use during pregnancy](#)
- [N95 respiratory use during advanced pregnancy](#)

**Pre-existing respiratory or cardiovascular conditions.** Individuals with a pre-existing respiratory or cardiovascular condition are encouraged to take caution when exercising with a face mask. Specifically, those clients who have chronic obstructive pulmonary disorder, asthma, chronic bronchitis, pulmonary fibrosis or any other lung condition should consult (i.e., via telemedicine) with a medical professional for personal instructions on exercising with a face mask.

**Epilepsy.** It is the recommendation of the [Epilepsy Foundation](#) that individuals with epilepsy follow community guidelines, including wearing a mask when leaving the house. It is also important to have an updated seizure action plan, obtain an extra supply of prescription medications, travel with a friend or family member if the individual experiences uncontrolled seizures and remove the mask during or immediately following a seizure. If someone has concerns about using a face mask because of the types of seizures they experience, it is best to contact a healthcare provider to discuss a more individualized approach for reducing risk of exposure and transmission.

**Other considerations.** It is also important to note that feeling dizzy after a workout (with or without wearing a face mask) may indicate that a person has low blood pressure. This may also

occur in pregnant women. Dizziness after exercise may sometimes indicate a heart problem or symptoms of type 2 diabetes (low blood sugar levels). Medical attention is necessary if this condition persists.

The [CDC](#) also suggests not wearing a face covering if you have trouble breathing, are unconscious or otherwise incapacitated and unable to remove a mask without assistance.

### **Question3: What type of face covering should be worn while exercising? Are reusable or cloth face masks preferred to disposable ones? Also, are homemade face masks effective?**

**Answer:** The [purpose of a face mask](#) is to help block respiratory droplets from being sprayed into the air when a person coughs, sneezes, breathes or talks. Surgical masks (also called medical masks) and N95 masks (which are a form of a respirator) are critical masks used by healthcare workers, who wear them when treating high-risk patients and where social distancing is not possible. However, the efficacy of wearing a medical mask during exercise has not been investigated.

For repeated use, cloth masks are a very good option during exercise. It is best if the cloth mask has multiple layers of fabric. A person can buy or make a cloth mask. Masks made of a scarf, bandana or T-shirt are [not great options](#), as they usually do not fit the face as well as a cloth mask. A neck gaiter (also called a buff) is a flexible tube fabric worn to keep the neck and face warm in cold weather. Neck gaiters are not a good option for exercise enthusiasts because they are designed to keep the face and neck warm, and during exercise it is important to dissipate heat from the body (to cool it off). Also, avoid using masks that have plastic valves in the front, as these only filter air that a person breathes in and do not block the air breathed out.

Finally, face shields offer yet another face-covering option for exercisers. Face shields provide wearers protection (entire face—eyes, nose and mouth) without impacting breathing. The unfortunate downside is that face shields tend to be less available than other face-covering options.

The N95 respirator and surgical/medical masks, which are disposable, are considered critical medical supplies and should be reserved for healthcare workers and medical first responders who need the masks when they come in direct contact with coronavirus patients. Respirators are designed for blocking small viral and bacterial particles as well as large droplets, while surgical masks protect against large droplets only. These supplies were not developed for environments where the user is sweating (for example, from exercise), and thus collecting more moisture on the mask. When these masks became wet, the flow of air into the lungs is restricted, which is exactly what you do not want during exercise. Some of the higher-quality washable and reusable multilayer cloth face masks have an inner fiber layer of moisture-wicking material that is made from antimicrobial fiber and draws the moisture from the face. Plus, they are much more durable to accommodate the vigorous movement demands of exercise.

Homemade face masks do not undergo the same testing and approval process that surgical masks and respirators do and typically do not fit as well around the mouth and nose. However, according to the CDC, [cloth face coverings may be effective](#) for slowing the spread of COVID-19. Cloth face coverings may prevent the wearer from spreading the virus to others but may not protect the wearer.

#### **Question 4: Does wearing a face mask cause an accumulation of CO<sub>2</sub>?**

**Answer:** CO<sub>2</sub> is a tiny particle and makes up a small amount of the air we breathe. Even though CO<sub>2</sub> in expired air may slowly build up in a mask over time, it will not reach toxic levels that are harmful for most people and will not lead to symptoms associated with higher levels of CO<sub>2</sub> rebreathing. Therefore, CO<sub>2</sub> toxicity from wearing a mask while exercising is very unlikely.

That said, different types of face coverings allow for differing amounts of CO<sub>2</sub> accumulation. Cloth face coverings are currently recommended for public use by the CDC and they are made of more breathable materials compared to respirators and surgical masks. Research studies have shown that [elevated CO<sub>2</sub> levels are a possibility](#) and that speaking while working at a low

to moderate intensity while wearing a respirator can lead to increased [CO<sub>2</sub> rebreathing](#). While cloth face masks reduce the transmission of respiratory droplets, they still allow for gas exchange and may be a better choice during exercise.

**Question 5: As an exercise professional, besides wearing a face mask, how else can I keep myself safe at work?**

**Answer:** Each club needs to establish facility cleaning and disinfecting policies of common high-touch surfaces and equipment. Traffic flow throughout the facility may need some reimagining to best facilitate social distancing (6 feet) between clients. Have clients bring their own mats and foam rollers (and similar exercise devices) to class to avoid particle spread. The facility should provide face coverings for clients who do not have them. Personal hygiene is a must for everyone, and facilities should supply hand sanitizers containing at least 60% alcohol. Exercise professionals should take their normal breaks during the day and perhaps bring two or more cloth face masks to work (always changing during and/or after a class). Personal trainers need to be reminded that COVID-19 is primarily thought to be spread from person to person through close or direct contact with someone who is infected. If someone is not wearing a face mask, droplets can land in the mouth, eyes or nose of others. Try to develop a safe social distance between clients during personal-training sessions. With strong leadership and planning, exercise professionals can create safe environments for clients.

The [CDC](#) also states that individuals who work in a setting where cloth face coverings may increase the risk of [heat-related illness](#) or cause safety concerns due to introduction of a hazard (for instance, straps getting caught in machinery) may consult with an occupational safety and health professional to determine the appropriate face covering for their setting. This guideline also applies to people engaged in vigorous-intensity physical activity in areas where heat-related illness is a factor, as well as to those who may use exercise equipment in which the cloth face covering may become entangled during use.

## **Question 6: Are there any standards for ventilation or room temperature for the studio environment?**

**Answer:** According to a 2018 study:

- The risk of infection (from potential pollutants and viruses) increased during periods of peak occupancy, when the ventilation needed by occupants was greater. The evening (when gyms are at their busiest) was when infection risk was found to be at its highest.
- The lower the ceiling height and greater the number of people in the room, the higher the level of pollutants and carbon dioxide (CO<sub>2</sub>) in the air (please note that CO<sub>2</sub> measurement is often used for indoor environmental research).
- There is a relationship between exercise intensity and increased CO<sub>2</sub> concentrations.
- Although higher temperatures move most of the pollutants and CO<sub>2</sub> toward the ceiling, this may be creating "a false impression of adequate ventilation." In other words, the pollutants are still potentially harmful.
- Bottom-line message: Because air filtration systems may not be 100% protective for eliminating the dangers of particle dispersion from COVID-19, exercise professionals need to establish guidelines for social distancing in group classes and the wearing of face coverings by all exercisers. Companies around the country are familiar with Environmental Protection Agency policies and can assess the ventilation of your facility.

## **Question 7: Is a mask needed if individuals are 6 feet apart? Is it “6 feet and a mask” or “6 feet or a mask”?**

**Answer:** It is the recommendation of the [CDC](#) to wear a face covering in any public setting where other social-distancing measures are hard to maintain to help people who have the virus and don't know it from transmitting it to others. [The Occupational Safety and Health Administration \(OSHA\)](#) reports that face coverings are not a substitute for social-distancing measures. Wearing a face covering is most important in areas where appropriate social distancing cannot be maintained and each recommendation should be viewed as a layer of



protection. Wearing a face covering and maintaining an appropriate distance offers two layers of protection for reducing the risk of transmission.

While guidelines may differ when it comes to the appropriate amount of social distancing, 6 feet is the recommendation from the CDC, which reminds us that COVID-19 is a new disease and there is still much to be learned. The general consensus among public health experts is that the greater the amount of physical distance the greater the protection viral spread. As new science and understanding emerge, guidance will be updated as needed.

### **Question 8: How should I properly hydrate while wearing a face mask?**

**Answer:** Follow established fluid intake guidelines while wearing a mask. It is extremely important to remove and replace the face mask appropriately at the time of consumption. Best practices for removing the mask include handling the elastic ear loops only and then replacing it in the same way. For full protection, washing of the hands before removal would be a safe practice.

### **Question 9: Should cloth face coverings be used during aquatic exercise and water-based activities?**

**Answer:** The [CDC](#) recommends that cloth face coverings should be used as feasible and that they are most important when it is difficult to distance yourself from others. It is the advice of the CDC to not wear cloth face coverings in water because when they become wet they may be difficult to breathe through. According to an article in [Nursing Times](#), a wet mask has increased resistance to airflow, is less efficient at filtering bacteria and leads to increased venting (a person starts to breathe harder). Therefore, a medical/surgical mask should be changed when wet. As specialty exercise masks hit the market, researchers will be able to test their efficacy as they become wet. Please stay tuned for this research. The CDC also suggests not wearing a face covering while performing activities that may cause it to become wet. Instead, it is more important to focus on maintaining physical distance from others when in the water.

