

# COVID-19

## Wearing Masks: Answers to Frequently Asked Questions



This WorkCare FAQ discusses the efficacy of masks to help prevent the spread of SARS-CoV-2, the coronavirus that causes COVID-19.

**Q:** *Is wearing a mask to prevent the spread of COVID-19 like using a chain link fence to keep out a gnat?*

**A:** No. Securely covering your nose and mouth with a mask helps prevent the spread of aerosolized (airborne) droplets of saliva and mucus that contain microscopic, infectious viral particles. People with COVID-19 often don't realize they are contagious because they don't feel sick. If you wear a mask, you are protecting other people, and others who wear a mask are protecting you. For related resources from the Centers for Disease Control and Prevention (CDC), refer to: [CDC calls on Americans to wear masks to prevent COVID-19 spread.](#)

**Q:** *How much protection does a mask provide?*

**A:** The degree of protection provided by a mask depends on the type of mask and how, where and when you wear it. A Duke University research article published Aug. 7, 2020, in *Science Advances*: [Low-cost measurement of facemask efficacy for filtering expelled droplets during](#)

[speech](#), compares the performance of 14 types of masks while talking. While this study was limited in scope, the findings are believed to be relevant to daily use: N95 masks without valves afforded the most protection. (Masks with valves are not recommended under any circumstances because they allow particles to escape.) Surgical or polypropylene masks also performed well. Hand-made cotton face coverings provided good coverage, eliminating a substantial amount of spray from normal speech. Multiple layers improved the effectiveness of cotton masks. Bandanas and neck fleeces, gaiters or balaclavas were least effective because they lack multiple layers and/or don't fit snugly around the nose and mouth.

A study conducted at [Virginia Tech](#) found neck gaiters provide protection similar to cloth masks. Using manikin heads in a 280 L chamber to generate droplets and aerosols, they found a doubled-over neck gaiter blocked more than 90 percent of aerosols 0.5-5 microns in size and 100 percent of 20-micron droplets from reaching the face of another manikin 30 centimeters away. They concluded that snugly-fitted masks or coverings with at least two layers of fabric are effective at preventing the spread of SARS-CoV-2.

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- Q:** *If everyone wore a mask whenever they are around other people, what impact would it have?*
- A:** According to Associate Professor of Medicine Eric Westman, M.D., who contributed to the Duke University study cited in the previous answer: “If everyone wore a mask, we could stop up to 99 percent of these droplets before they reach someone else. In the absence of a vaccine or antiviral medicine, it’s the one proven way to protect others as well as yourself.” [In one simulation](#), researchers predicted that 80 percent of the population wearing masks would do more to reduce COVID-19 spread than a strict lockdown. A June 2020 forecast from the Institute of Health Metrics and Evaluation suggested that [33,000 deaths could be avoided](#) by Oct. 1, 2020, if 95 percent of people wore masks in public.
- Q:** *What do we know about the size of the SARS-CoV-2 virus contained in infected droplets?*
- A:** Data suggest that SARS-CoV-2 is transmitted by both small and large particle aerosols. (Refer to: Viewpoint – [Particle sizes of infectious aerosols: implications for infection control](#), July 24, 2020, The Lancet Respiratory Medicine.) Meanwhile, an analysis of negative-stained SARS-CoV-2 particles by electron microscopy showed their diameter ranges from 60 to 140 nanometers (nm). (Refer to: [The Size of SARS-CoV-2 Compared to Other Things](#); Medical Life Sciences News, July 16, 2020.) By comparison, N95 masks filter approximately 95 percent of particles with an average diameter of less than 300 nm and 99 percent of particles with an average diameter of 100 nm. Respiratory droplets that can be dispelled by coughing, sneezing, talking or singing are typically 5-10 micrometers (microns) long. A single human hair is comparable in size to 400 to 1,000 SARS-CoV-2 particles. This suggests that a respiratory droplet may contain hundreds or thousands of viral particles.
- Q:** *If I wear a mask and still get COVID-19, is there a chance I won’t get as sick because I was exposed to fewer viral particles than I would have if I hadn’t worn a mask?*
- A:** That may be possible, but there is not yet conclusive evidence and more research is needed. (Refer to: Perspective – [Masks Do More Than Protect Others During COVID-19: Reducing the Inoculum of SARS-CoV-2 to Protect the Wearer](#), *Journal of General Internal Medicine*, July 31, 2020.) In this study, researchers present evidence supporting the theory that exposure to a lower inoculum or dose of virus can make subsequent illness less severe.
- Q:** *Given the national shortage of N95 and surgical masks, we are using cloth masks in our industrial plants and offices. What do public health officials recommend with regard to wearing cloth masks in these types of workplaces?*
- A:** The CDC says the current supply of surgical masks and respirators should be reserved for health care workers and other first responders who use them as essential personal protective equipment (PPE). Cloth masks are not considered appropriate substitutes for PPE in workplaces where respirators or facemasks are recommended or required to protect the wearer. The CDC recommends that employees in other occupations wear masks when working around others, as feasible, and whenever they are in a public setting or around people who don’t live in their household. A mask is especially important to wear when at least 6 feet of social distance is difficult to maintain.
- Q:** *Does wearing a mask lower lower the user’s oxygen levels or weaken their immune system?*
- A:** There is no evidence that low oxygen levels occur when wearing an N95 or cotton mask during a work shift, nor that wearing a mask weakens the immune system. The American Lung Association

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recommends that people with lung disease discuss mask-wearing concerns with their personal health care provider.

The federal Occupational Safety and Health Administration (OSHA) reports that some people have mistakenly claimed that OSHA standards (e.g., the [Respiratory Protection standard](#), the [Permit-Required Confined Space standard](#) and the [Air Contaminants standard](#)) apply to the issue of oxygen or carbon dioxide levels resulting from the use of medical masks or cloth face coverings in work settings with normal ambient air (e.g. health care settings, offices, retail settings, construction). These standards do not apply to the wearing of medical masks or cloth face coverings in work settings with normal ambient air. They only apply to work settings where there are known or suspected sources of chemicals (e.g., manufacturing facilities) or workers are required to enter a potentially dangerous location (e.g., a large tank or vessel).

**Q:** *Is it safe to wear a mask while working outdoors on hot, humid days?*

**A:** People who work in a setting where masks may increase the risk of heat-related illness or cause safety concerns, for example, condensation forming on protective eyewear, are advised to consult with an occupational health and safety professional to determine the appropriate mask for their setting. Some employers allow outdoor workers to prioritize use of masks when in close contact with other people, such as during group travel or shift meetings, and remove masks when social distancing is possible.

**Q:** *What can we offer employees who cannot or will not wear a mask?*

**A:** The CDC and OSHA recognize that wearing a mask may not be possible for some people. In certain situations, wearing a mask may exacerbate a physical or mental health condition, lead to a medical emergency or cause safety concerns. Adaptations and alternatives should be considered. For additional guidance, refer to [Considerations for Wearing Masks](#).

**Q:** *Where can I find instructions for making an effective cloth mask and washing masks?*

**A:** Refer to [How to Make Masks](#) and [How to Wash Masks](#) on the CDC website. For people who work or live with a hearing-impaired person who reads lips, you can find instructions for inserting a clear mouth window here: [DHH Mask Project](#).

**Q:** *Is there anyone who shouldn't be wearing a mask?*

**A:** According to the CDC, masks should not be worn by children under 2, people who have trouble breathing (for example, they have a respiratory disease) or anyone who is incapacitated and unable to remove their mask on their own. A mask should not be worn while swimming.