

# Unmasking the Myths and Misconceptions About Face Masks



In the past six months, the coronavirus pandemic has sickened more than 11.8 million people and has caused more than 544,000 deaths. As of July 20, 2020, more than 3.7 million people in the United States have been infected with COVID-19 and over 140,000 have died. [Please refer to the New York Times database for the most updated numbers.](#)

As of July 7, 2020, [almost twice as many countries have reported significant increases in new cases over the last two weeks than those that have reported significant declines.](#)

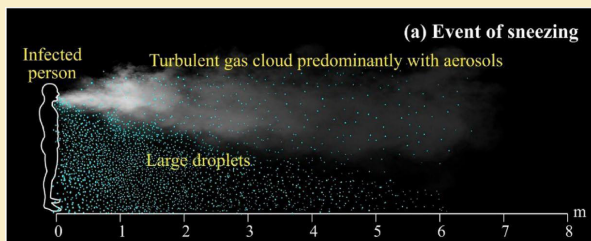
In April many of the cases across the globe leveled off after social distancing measures were implemented. However, as many countries tried to resume normal activities in May and June, new infections increased again.

The U.S. now accounts for over 25% of all cases reported throughout the world and almost 25% of all deaths.

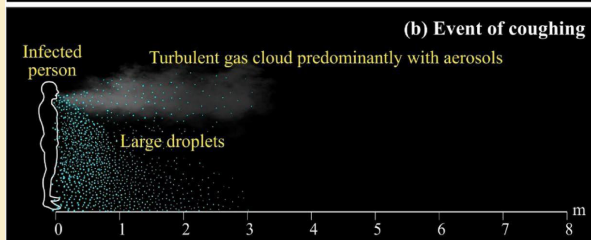
## What is COVID-19?

COVID-19 is caused by the SARS-CoV2 virus and is spread between people primarily through aerosol and airborne droplets. Viral particles are encased in droplets of mucus, saliva, and water. Larger droplets fall to surfaces faster than smaller particles. The distance they travel depends on how they're expelled – a sneeze can propel large droplets up to 20 feet while a cough can propel them around six feet. Finally, speaking can send these large droplets over three feet (see below).

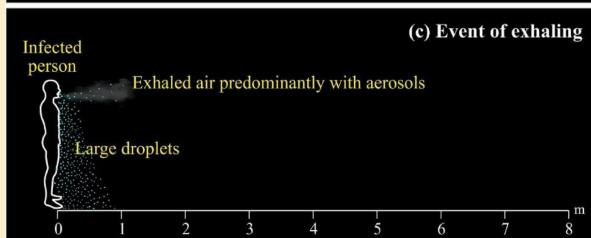
## Trajectories of droplets and aerosols from an infected patient



**(a) Event of sneezing** with droplets travelled for 6 m (approximately 19.7 feet) at a speed of 50 m/s within 0.12 s



**(b) Event of coughing** with droplets travelled for 2 m (6.6 feet) at a speed of 10 m/s within 0.2 s



**(c) Event of exhaling** with droplets travelled for 1 m (3.3 feet) at a speed of 1 m/s within 1 s. [\(Source\)](#)

Smaller particles become aerosolized and can linger in the air and drift longer distances with air currents. People who harbor the virus can spread viral particles when they talk, sing, breathe, cough or sneeze.

## Mask Types

**N95 masks** are fitted protective devices designed to filter out at least 95% of the smallest droplets and are used predominantly in health care settings. They are the most effective masks in keeping you and others from getting infected.

**Surgical masks** are loose-fitting disposable coverings whose main purpose is to prevent the spread of airborne droplets to others but may also keep larger droplets from being inhaled by the wearer.

**Woven cotton or fabric masks** reduce the spread of larger droplets to others.

## Myths and Facts

### **Myth: Masks don't protect against COVID-19**

**Fact:** COVID-19 is spread through respiratory droplets transmitted when you talk, sing, breathe, cough or sneeze. Wearing any type of mask can reduce the risk of spreading those droplets from you to others and from others to you. Recently, the prestigious medical journal, The Lancet, published a paper that reviewed 172 studies from 16 countries and determined that [wearing a mask could reduce the risk of spreading COVID-19 to around 3%](#).

### **Myth: Cloth masks are useless**

**Fact:** Since the coronavirus is thought to mainly be spread through droplets that are expelled from your mouth or nose when you cough, sneeze, talk or sing, cloth masks act as a barrier to keep large droplets from getting out into the air, where someone else could breathe them in and become infected.

Cloth masks, even those that are homemade, [have been shown to decrease the number of germs that someone releases into the air](#).

### **Myth: I feel fine. Why do I need to wear a mask if I'm not sick?**

**Fact:** You may be infected with COVID-19 without even knowing it. [An estimated 40%-50% of those infected with SARS-CoV-2 are asymptomatic](#) (feel fine and do not have any symptoms). Even more worrisome is the fact that these people can still transmit the virus to others for as long as two weeks. By wearing a mask, you can prevent spreading your germs to others.

Wearing a mask also helps protect you from someone who may be infected and not yet showing signs of it. Your mask serves as a barrier protecting you from breathing in those droplets and becoming infected.

### **Myth: I don't need to wear a mask as long as I practice social distancing**

**Fact:** Social distancing alone is not sufficient to stop the spread of the infection. Because COVID-19 is highly contagious and easily spread through respiratory droplets, control of this disease needs to involve the use of face coverings. Large droplets may travel up to 20 feet from a sneeze, more than six feet from a cough, and small droplets or aerosolized viral particles can travel much further than six feet. So, keeping six feet of distance, particularly in indoor environments, and especially in small enclosed spaces, is simply not sufficient to stop the spread of the virus. [A recent study published in the Proceedings of the National Academy of Sciences of the United States](#) looked at different strategies to control the COVID-19 pandemic in China, Italy and New York City from January through May of this year. The authors found that the most significant factor in controlling the spread of the illness was the use of a face covering. In fact, they estimated that a face covering alone significantly reduced the number of infections by more than 78,000 in Italy and over 66,000 in New York City from April 17 to May 9. They concluded that other measures, such as social distancing implemented in the United States, are insufficient by themselves in protecting the public. A recent model developed by the University of Washington's Institute of Health Metrics and Evaluation showed that [if there was near-universal usage of cloth or homemade face masks, between 18,000 and 28,000 deaths in the U.S. could be prevented before October 1, 2020](#).

## **Myth: I don't need to wear a mask indoors**

**Fact:** Coronavirus may be spread indoors through small droplets that are expelled in our breath or when we speak. These virus particles can float through the air and be carried by the ventilation system—contaminating the room. If a person breathes in these droplets, or touches a surface upon which these droplets landed, and then touches their mouth, nose or eyes, they can infect themselves with COVID-19. This is more likely to occur in crowded indoor spaces or in areas that have poor ventilation, like bars, restaurants, offices, markets or casinos. Recently, 239 experts from 32 countries wrote a letter to the World Health Organization (WHO) detailing the evidence that smaller droplets can indeed infect people and asking the WHO to update its recommendations.

Therefore, although not currently required in all states, it would seem that wearing a mask indoors is a sensible safety precaution to reduce your risk of getting infected. In these situations, in addition to wearing a mask, frequent handwashing or use of alcohol-based hand sanitizer while avoiding touching your face is also a smart move.

## **Myth: Masks will cause me to get sick**

**Fact:** This is not correct when masks are used properly.

Improper handling or storage of your mask can increase your risk of illness, not only from COVID-19 but from other infections as well. The outside of your masks can become contaminated if they are exposed to another person's airborne droplets. If this were to happen, and you did not carefully remove your own mask, you could potentially contaminate yourself. It is imperative that you wash your hands with soap and hot water or use an alcohol-based hand sanitizer prior to putting on or removing your mask, so that you don't allow your hands to contact the virus that may be on your mask and then get into your body through your eyes, nose or mouth.

It is also important to remember that cloth masks must be laundered regularly and that disposable surgical masks should be discarded after each use.

The following are some helpful tips about putting on and taking off a mask from the Mayo Clinic:

- Place your mask over your mouth and nose.
- Tie it behind your head or use ear loops and make sure it's snug.
- Don't touch your mask while wearing it.
- If you accidentally touch your mask, wash or sanitize your hands.
- Remove the mask by untying it or lifting off the ear loops without touching the front of the mask or your face.
- Wash your hands immediately after removing your mask.
- Regularly wash your mask with soap and water in the washing machine.  
It's fine to launder it with other clothes.

## **Myth: Wearing a mask will make me develop carbon dioxide poisoning**

**Fact:** Disposable surgical masks and cloth face masks are not tight fitting and therefore allow airflow—if the oxygen can get in, the carbon dioxide can get out. These masks do not cause carbon dioxide to accumulate to any significant degree.

Experts say that even the N95 masks used by medical professionals pose no risk to healthy people. The CDC advises that people should use cloth masks to reserve enough N95s for healthcare workers. However, some experts have advocated for the widespread production and wearing of N95 masks by everyone as the best way to prevent the spread of the virus. In an ideal world, N95 masks for the general population would be the most prudent strategy, however, mask shortages limit the distribution to all but healthcare professionals at this time.

Experts also say people with severe lung disease already have impaired breathing and should speak with their healthcare providers before wearing a mask.

## **Myth: I am getting more migraine attacks since wearing my face mask**

**Fact:** Perhaps. [In a recent study of health care workers](#), 81% developed headaches from wearing N95 masks and protective goggles. Workers were more likely to develop headaches from PPE if they had a prior history of a headache disorder or if they wore their PPE more than 4 hours per day.

Some people who are not wearing medical PPE complain of headaches from their face masks. These headaches are not due to lack of oxygen or a buildup of carbon dioxide (see previous myth). Some people develop compression headaches from the tight bands that secure the mask to their heads, while others may develop migraine because they are not keeping well hydrated or are missing meals while wearing their masks.

If you are susceptible to migraine attacks, we suggest that you limit the consecutive hours you wear your mask and remember to keep well hydrated and not skip meals.

If you develop compression headaches, limiting the duration you wear the masks or goggles can help, as can experimenting with different types of masks or goggles that exert less pressure against your head.

## **Myth: Wearing a mask is unconstitutional**

**Fact:** Currently 20 states require that you wear masks in public. Wearing a face mask is not about impinging upon your constitutional rights or your civil liberties. It is a public health issue, a safety issue and a humanitarian issue. As the pandemic spreads, face masks are our first and best line of defense against this highly contagious and potentially life-threatening disease. Social distancing and quarantining are not enough to prevent the spread of COVID-19. See myth above related to social distancing.

## **Myth: Wearing a mask will make me look weak or make people think I'm sick**

**Fact:** Although it is true that the CDC guidelines originally recommended that the general public shouldn't buy or wear masks, the reasoning was that there was a limited supply of PPE, especially N95 masks, available to protect healthcare workers on the front lines from getting infected. We now know better. Masks do prevent the spread of COVID-19. Masks protect others from you and vice-versa.

Unfortunately, these mixed messages confused and angered many people, including caregivers. It caused people who did appropriately wear masks to become stigmatized. Do they have COVID-19? Are they hoarding PPE?

Those of us living with migraine know what it's like to live with stigma. We fight it daily.

**Let us not lose sight that COVID-19 is a life-threatening disease and that by wearing a mask, you are protecting the health of your family and friends, your fellow citizens and yourself. It is exactly the opposite of weakness – it is a true sign of respect.**

1 Prepared by: Dr. Lawrence C. Newman, Chair; Dr. Christine Lay, Vice Chair; Dr. David Dodick, Immediate Past Chair



## **AMERICAN—MIGRAINE FOUNDATION**

The mission of the American Migraine Foundation is to mobilize a community for patient support and advocacy, as well as drive and support impactful research that translates into advances for patients with migraine and other disabling diseases that cause severe head pain. Visit [americanmigrainefoundation.org](http://americanmigrainefoundation.org) for more resources for people living with migraine and their supporters.

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