

Coronavirus (COVID-19)

Can Face Masks protect against COVID-19

Can face masks reduce the risk of COVID-19 infection or spread?

The wearing of face masks in high-risk environments such as hospital emergency rooms and nursing homes can help reduce the risk of infection and spread of COVID-19. The concept here is that face masks should provide **a barrier** between the person wearing the masks from those around them. One of the main ways that COVID-19 spreads is from exposure of heavy respiratory droplets from an infected individual. It is felt that the virus can remain in airborne for about 1-3 hours following a cough or sneeze, and hence wearing of properly fitting hospital grade face masks could potentially provide a barrier that might reduce inhalation of the heavy respiratory droplets that contain the virus. However, the use of home-made face (cloth) masks, in the general public is somewhat controversial.

How does a homemade cloth mask compare to hospital grade masks?

Homemade masks are not medical devices, i.e. they have not been tested and regulated, and the porous natures of homemade masks are unlikely to provide complete protection against microscopic virus-sized particles. Also, homemade cloth masks are often loose fitting and so do not offer a good seal around the nose and mouth and will not be effective in blocking airborne virus particles that may be transmitted by coughing or sneezing. By comparison, surgical/hospital grade masks, particularly N95 masks, are designed to achieve a very close facial fit and efficient filtration of airborne particles, including viruses. However, note that the N95 designation implies an efficiency of at least 95%. Hence, if an N95 respirator mask provides 95% efficiency, a homemade device made of cotton (cloth), will not likely be as efficient.

Are there any scenarios where a homemade mask can/should be worn?

While, wearing homemade masks in the community has not been proven to protect the person wearing it, they may still help prevent the spread of the coronavirus by the following means:

- May be used as an additional measure to help cut down the spread of the novel coronavirus in situations where individuals can't always ensure proper physical (social) distancing, i.e. may restrict distribution of respiratory droplets between individuals in close spaces
- By covering both mouth and nose with a homemade mask, it will help prevent spread of respiratory droplets from contaminating others and surfaces, and help reduce viral spread
- Reports show that the Coronavirus can live in droplets in the air for up to one to three hours after an infected individual has left an area. Face masks will help prevent these droplets from getting into the air and infecting others, i.e. pre-symptomatic individuals who were unaware that they are infected with COVID-19, are less likely to distribute heavy respiratory droplets to others around them, while wearing a homemade mask
- Homemade masks could be worn over a medical mask to help extend the use/reuse of the medical mask
- Homemade masks may be helpful in reducing spread of heavy respiratory droplets during physical activity such as walking, running, and biking

Is it necessary to always wear a homemade mask when leaving my home?

It is not necessary to wear homemade masks continually after you leave your home, as the masks could become soiled or contaminated with other bacteria and viruses, that will make the mask unsanitary. It is not necessary to wear a mask when walking in open spaces, or traveling

in a car by yourself, or with other members of your household. Masks, however, may be most helpful in confined areas (such as grocery stores) particularly if social distancing is a concern.

Pros and cons of wearing a homemade mask?

Pros:

- Homemade masks may restrict the distribution of respiratory droplets in the atmosphere and could potentially reduce the spread of COVID-19
- They are cheap and easy to make
- All family members can readily be supplied with masks
- Homemade mask can be fashioned with pockets to insert other masks or filters to improve effectiveness
- Cloth mask can be easily washed and kept clean and reused several times

Cons:

- Non-medical masks have limitations with regards to blocking inhalation of viral particles
- Prolonged wearing of any mask can lead to moisture buildup on the inside of the mask, which can encourage the growth of bacteria and viruses, and lead to other types of infections
- Frequent handling/repositioning of the outside of the mask can lead to either contamination of the fingers and hands from a dirty mask, or vice versa, contamination of the mask with dirty hands
- Homemade masks may create a false sense of security, that may encourage some to ignore social distancing, or frequent handwashing

Important considerations while wearing a mask

- Wash your hands immediately before putting on any mask and immediately after taking it off
- To avoid contamination, do not handle the mask excessively while it is being worn (in addition to practicing good hand hygiene while wearing it)
- Ensure that the mask fits well on your face, without gaping spaces
- Do not wear a mask for extended periods of time without changing or washing them
- Typically, if it is necessary to wear throughout the day, it should be changed approximately every 4 hours or sooner if the mask becomes damp or soiled
- Wash a homemade mask regularly
- Masks should not be shared with others
- Keep all used face masks separately and wash separately from other garments
- To avoid spread within the environment and contaminating others, discard all medical and nonmedical masks directly into a garbage bin

Should the public purchase a supply of surgical masks?

COVID-19 is a global pandemic that requires cooperation of all individuals including the general public to follow the rules of the local health authorities, as it relates to social distancing, handwashing, and avoid face touching. Almost 2 million people have already been infected with the virus, leading to serious illness requiring hospitalization and over 100,000 deaths. Hospital and frontline healthcare workers are overwhelmed with managing COVID-19 cases, and account for ~ 10% of COVID-19 cases. Currently, there is a shortage of personal protective equipment (including masks) to supply frontline health professionals dealing with COVID-19 patients in the emergency room, ICU, in-patient units, nursing home/long-term care facilities. For the public, privately purchasing surgical masks, will only add to the shortage of masks currently available for

those on the front lines. Hence, hospital/surgical face masks and respirators (like N95 masks), must be kept for healthcare workers and others providing direct care to COVID-19 patients.

Be aware that in addition to hospital masks and N95 surgical respirators masks, complete protection can only be achieved when masks are used in combination with appropriate eye protection (e.g., face shield, goggles) to achieve full protection of the eyes, nose and mouth. Consequently, acquiring any of these additional protective devices will also contribute to shortage in these areas, which could see frontline healthcare workers working with inadequate equipment. Consequently, these types of protective equipment must be kept for healthcare providers.

Summary of use of facial masks and reducing risk of contracting COVID–19:

Prevention is better than cure; reduce your risk of developing COVID–19 by following by:

- Practice and encourage social distancing among others
- Wash your hands frequently
- Avoid excess touching of your eyes, nose and mouth
- Homemade face masks may not prevent inhalation of viral particles, but would reduce the chances of spreading the disease by reducing distribution of heavy respiratory droplets into the environment
- Facial masks should be used only in certain scenarios, where proper social (physical) distancing is not ensured
- Be aware of the need for increased physical distancing during subtypes of cardiovascular activity, including brisk walking, running, or cycling

Please be mindful of the risks that our frontline healthcare professionals are taking to care for those with COVID–19, and avoid purchasing and hoarding surgical masks and other personal protective equipment; as much as possible these should be reserved for healthcare professionals.

For further advice and resources, please visit: www.educateyourhealth.com